

RULE 201 COVERAGE

Adopted 11-12-74
(Amended 06-19-79, 05-27-86, 10-19-93)

Prohibitions as set forth in this Regulation, shall apply in the Placer County Air Pollution Control District.

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RULE 202 VISIBLE EMISSIONS

Adopted 11-12-74
(Amended 05-24-77, 06-19-79, 05-20-85)

A person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than three (3) minutes in any one (1) hour which is:

- A. As dark or darker in shade as that designated as No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines, or
- B. Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in Subsection (A) above.

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RULE 203 EXCEPTIONS TO RULE 202

Adopted 05-24-77
(Amended 04-21-81, 10-19-93)

- A. For the Sacramento Valley Air Basin and Mountain Counties Air Basin portions of the Placer County Air Pollution Control District:
1. Fires set by a public officer pursuant to RULE 320.
 2. Agricultural burning for which a permit has been granted pursuant to RULE 315.
 3. Fires set or permitted by any public officer in the performance of his official duty for the improvement of watershed range or pasture.
 4. Open outdoor fires used for recreational purposes or for cooking of food for human consumption.
 5. Use of any aircraft to distribute aids over lands devoted to the growing of crops, or the raising of fowl or animals.
 6. The use of orchard or citrus grove heaters which are in compliance with the requirements of RULE 208.
 7. Agricultural operations necessary for the growing of crops, or raising of fowl or animals.
 8. The use of other equipment in agricultural operations necessary for the growing of crops, or the raising of fowl or animals.
 9. Fires set pursuant to a permit issued by the Air Pollution Control Officer or a designated agency.
 10. The use of visible emission generating equipment in training sessions conducted by government agencies necessary for certifying persons to evaluate visible emissions for compliance with Section 41701 or applicable District Rules and Regulations.
 11. Smoke emissions from teepee burners operating in compliance with Section 4438 of the Public Resources Code during the disposal of forestry and agricultural residues or forestry and agricultural residues with supplementary fossil fuels when such emissions result from the startup or shutdown of the combustion process or from the malfunction of emission control equipment. This subsection shall not apply to emissions which exceed a period or periods of time aggregating more than 30 minutes in any 24-hour period. This subsection shall not apply to emissions which result from the failure to operate and maintain in good working order any emission control equipment.
 12. Smoke emissions from burners fired with forestry and agricultural residues or forestry and agricultural residues with supplementary fossil fuels when such emissions result from the startup or shutdown of the combustion process or from the malfunction of emission control equipment. This subsection shall not apply to emissions which exceed a period or periods of time aggregating more than 30 minutes in any 24-hour period. This subsection shall not apply to emissions which result from the failure to operate and maintain in good working order any emission control equipment.

- B. For the Lake Tahoe Air Basin portion of the Placer County Air Pollution Control District:
1. Smoke from fires set or permitted by any public fire officer, if such fire is set by or permission given in the performance of the official duty of such officer, and such fire in the opinion of such officer is necessary:
 - a. For the purpose of the prevention of a fire (or health hazard as determined by the Health Officer), which cannot be abated by any other means, or
 - b. The instruction of public employees and/or volunteer firemen in the methods of fighting fires.
 2. Smoke from fires set pursuant to permit on property used for industrial purposes for the purpose of instruction of employees in methods of fighting fires.
 3. Open outdoor fires used for recreational purposes or for cooking of food for human consumption.
 4. The use of an experimental device, system or method to study or research open burning authorized by Section 41707 and 41805 (B) of the Health and Safety Code and these Rules and Regulations.
 5. Use of aircraft to distribute seed, fertilizer, insecticides, or other agriculture aids over lands devoted to the growing of crops, or the raising of fowl or animals.
 6. The governing board of the district may by rule provide for the issuance by the Air Pollution Control Officer of permits for open burning. The provisions of RULE 202 do not apply to smoke from fires set pursuant to such permit.

RULE 204 WET PLUMES

Adopted 11-12-74
(Amended 05-24-77)

Where the presence of uncombined water is the only reason for the failure of an emission to meet the limitation of RULE 202 that rule shall not apply. The burden of proof which establishes the application of this Rule shall be upon the person seeking to come within its provisions.

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RULE 205 NUISANCE

Adopted 12-08-70
(Amended 05-24-77)

A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause to have a natural tendency to cause injury or damage to business or property.

Exception: The provisions of RULE 205 do not apply to odors emanating from agriculture operations necessary for the growing of crops or raising of fowl or animals.

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RULE 206 INCINERATOR BURNING

Adopted 11-12-74
(Amended 05-24-77, 12-19-78, 05-20-85, 02-04-92, 11-03-94)

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100 GENERAL

- 101 APPLICABILITY:** This rule applies to any incinerator which burns combustible or flammable waste or refuse-derived fuel.
- 102 EXEMPTION, BIOMASS BOILERS:** This rule shall not apply to boilers which have a primary energy source of biomass consisting of a minimum of 75 percent of the total annual heat input and which are subject to the requirements of Rule 232, BIOMASS SUSPENSION BOILERS, or Rule 233, BIOMASS BOILERS.
- 103 EXEMPTION, CREMATORY INCINERATORS:** This rule shall not apply to existing incinerators in operation on February 4, 1992 and which are exclusively crematoria of human or animal remains and are not modified or replaced.
- 104 EXEMPTION, EXISTING INCINERATORS:** The operating requirements of Section 302 shall not apply to an existing incinerator for which an Authority to Construct was issued by the Air Pollution Control Officer before February 4, 1992.
- 105 EXEMPTION, MEDICAL WASTE INCINERATORS:** This rule shall not apply to those incinerators which are subject to the requirements of Rule 906, AIRBORNE TOXIC CONTROL MEASURE - MEDICAL WASTE INCINERATORS.
- 106 EXEMPTION, RESIDENTIAL WASTE INCINERATORS:** This rule shall not apply to the burning of wood waste from trees, vines, or bushes burned on the property where grown; or rubbish originating from a single or two family dwelling on its premises, provided that the requirements of Regulation 3 are met; nor to an incinerator used exclusively in connection with a structure designed for and used exclusively as a dwelling for not more than four families.
- 107 EXEMPTION, TREATMENT UNITS:** This rule shall not apply to treatment units associated with aeration of contaminated soil, air stripping, and vapor extraction operations.

200 DEFINITIONS

- 201 ARB:** State of California Air Resources Board.
- 202 BIOMASS:** Any organic material not derived from fossil fuels, such as agricultural crop residues, bark, lawn, yard and garden clippings, leaves, silvicultural residue, tree and brush pruning, wood and wood chips, and wood waste, including these materials when separated from other waste streams. Biomass does not include material containing sewage sludge, industrial sludge, medical waste, hazardous waste, or radioactive waste.
- 203 CONTROL EQUIPMENT:** Any device which reduces emissions.
- 204 DIOXINS:** Dibenzo-p-dioxins and dibenzofurans chlorinated in the 2, 3, 7, and 8 positions and containing 4, 5, 6, or 7 chlorine atoms and is expressed as 2, 3, 7, 8 tetrachlorinated dibenzo-para-dioxin equivalents using current California Environmental Protection Agency toxic equivalency factors.
- 205 EXCESS AIR:** The air supplied in excess of that necessary to completely burn compounds.
- 206 INCINERATOR:** Any furnace or other closed fire chamber used to dispose of combustible or flammable materials by burning and from which the products of combustion are directed through a flue, chimney, or smoke stack. For the purposes of

this rule incinerators shall include boilers heated by the burning of waste, unless otherwise exempted in Section 100.

207 MULTIPLE-CHAMBER INCINERATOR: An incinerator consisting of three or more refractory lined combustion furnaces in series, physically separated by refractory walls, inter-connected by gas passage ports or ducts employing adequate design parameters necessary for maximum combustion of the materials to be burned.

208 MULTIPLE-CHAMBER STARVED-AIR INCINERATOR (or Controlled Air Incinerator): An incinerator which is designed to burn waste in two independent chambers:

208.1 Primary Chamber: where the majority of waste volume reduction occurs operated at sub-stoichiometric conditions.

208.2 Secondary Chamber: operates at excess air conditions; where destruction of gas-phase combustion products occurs. Passage ports, ducts, flues, chimneys, or stacks with burners shall not be considered Controlled Air secondary chambers unless the combustion zone exhibits design measures for the retention of the gas stream in the chamber, turbulence or mixing, and the availability of excess air, as determined by engineering analysis.

209 REFUSE-DERIVED FUEL: Treated or processed solid waste that is used as a fuel.

210 UNCONTROLLED EMISSIONS: The emissions measured from the incinerator at a location downstream of the last combustion chamber, but prior to any air pollution control equipment.

211 STOICHIOMETRIC AIR: An amount of air (theoretical combustion air) theoretically required for the complete combustion of compounds with total depletion of oxygen.

212 SUB-STOICHIOMETRIC AIR: An amount of air (theoretical combustion air) less than that required for the complete combustion of compounds.

213 WASTE: All discarded putrescible and nonputrescible solid, semisolid, and liquid materials, including garbage, trash, refuse, paper, rubbish, food, ashes, plastics, industrial wastes, demolition and construction wastes, equipment, instruments, utensils, appliances, manure, and human or animal solid and semi-solid wastes or remains.

214 WASTE CHARGING RATE: The amount of waste charged or fed into the incinerator per unit of time, usually expressed in terms of pounds per hour or kilograms per hour.

300 STANDARDS

301 EMISSION LIMITATIONS: No person shall operate an incinerator subject to this rule unless:

301.1 Oxides of Nitrogen emissions, expressed as Nitrogen Dioxide (NO₂), do not exceed 50 parts per million by volume, dry basis, (ppmdv) corrected to 12% carbon dioxide (CO₂), for any 1 hour average emission rate.

301.2 Sulfur Dioxide emissions, expressed as Sulfur Dioxide (SO₂), do not exceed 30 ppmv, corrected to 12% carbon dioxide (CO₂), for any 1 hour average emission rate.

301.3 Carbon Monoxide (CO) emissions do not exceed 100 ppmv, corrected to 12% carbon dioxide (CO₂), for any 1 hour average emission rate.

- 301.4 Particulate Matter emissions do not exceed 0.015 grains per dry cubic foot of gas at standard conditions, corrected to 12% carbon dioxide (CO₂). The concentration limit shall apply to particulate matter measured using ARB Test Method 5.
- 301.5 Total Hydrocarbon emissions (THC) emissions expressed as equivalent methane do not exceed 10 ppmv, corrected to 12% carbon dioxide (CO₂), for any 1 average hour emission rate.
- 301.6 Total Hydrochloric Acid (HCl) emissions do not exceed 30 ppmv, corrected to 12% carbon dioxide (CO₂), for any 1 hour average emission rate.
- 301.7 Dioxins emissions have been reduced to 10 nanograms or less per kilogram of waste burned.

Demonstration of compliance with Subsections 301.6 and 301.7 shall not apply to incinerators which are exclusively crematoria of human or animal remains.

302 OPERATING REQUIREMENTS: No person shall operate an incinerator subject to this rule and not exempt under Section 102, unless control equipment is installed and used in a manner which has been demonstrated and approved by the Air Pollution Control Officer to meet the following requirements:

- 302.1 The flue gas temperature at the outlet of the control equipment shall not exceed 300 degrees Fahrenheit, unless it has been demonstrated to, and approved in writing by, both the ARB and the Air Pollution Control Officer that lower emissions are achieved at a higher outlet temperature;
- 302.2 Only multiple-chamber starved-air incinerators may be used. The primary combustion chamber shall be maintained at no less than 1400 degrees Fahrenheit, and the secondary chamber shall be maintained at no less than 1800 degrees (\pm 200 degrees) Fahrenheit; and
- 302.3 The furnace design shall provide for a residence time in the secondary chamber for combustion gas of at least one second. Residence time shall be calculated using the following equation:

$$\text{Residence Time} = \frac{V}{Q_C}$$

Where: V = means the volume, as expressed in cubic feet, from the point in the incinerator where the maximum temperature has been reached until the point where the temperature has dropped to 1600°F.

Q_C = means the combustion gas flow through V, as expressed in actual cubic feet per second, which is measured according to ARB Test Method 2, after adjusting the measured flow rate to the maximum combustion chamber temperature (T_C) by using T_C instead of T_{STD} in the ARB Test Method 2 calculation for Q_C.

The volumetric flow rate measured at the sampling points must be adjusted to chamber pressures.

Alternative methods may be used if conditions for determining the combustion gas flow rate by Method 2 are unacceptable. The determination shall be equivalent to, and within the guidelines of, ARB Test Method 2 and approved by the Air Pollution Control Officer and the U.S. Environmental Protection Agency (EPA).

T_C = means the maximum temperature, in degrees Fahrenheit, that has been reached in the incinerator.

302.4 No person shall operate a waste or refuse-derived fuel incinerator unless the following equipment is installed and maintained in an operable condition:

- a. A continuous data recording system as specified in Section 501.
- b. Primary and secondary combustion chamber temperature indication.
- c. Equipment for determining and recording the weight of waste charged to the incinerator.
- d. An automated ram waste feeder with airlock, for batch fed incinerators, such that no ingress of external air occurs during the process of feeding waste to the primary combustion chamber.

303 AUXILIARY FUEL: Auxiliary fuels shall be natural gas, liquefied petroleum gas, or equivalent gaseous fuel.

304 ASH HANDLING: No person shall operate a waste incinerator unless the bottom ash, fly ash and scrubber residuals are handled and stored in a manner that prevents entrainment into ambient air.

400 ADMINISTRATIVE REQUIREMENTS

401 COMPLIANCE SCHEDULE:

401.1 By November 3, 1995, any person subject to the emission limitations in Section 301 shall submit an application for Authority to Construct for any modifications required to achieve compliance with this rule.

401.2 By November 3, 1996, any person subject to the emission limitations in Section 301 shall demonstrate final compliance with all applicable standards and requirements of this rule.

402 UPSET NOTIFICATION: Any violation, malfunction, or upset condition on the incinerator, the air pollution control equipment, or the continuous data recording system shall be reported to the District within 1 hour of occurrence or by 9:00 AM the next business day if the malfunction occurs outside normal business hours and the District does not maintain a radio room or an answering machine.

403 OPERATOR CERTIFICATION: No person shall operate a waste incinerator unless each individual who operates or maintains the incinerator obtains either a certificate of training in waste incineration issued by the American Society of Mechanical Engineers within nine months of the commencement of operation, or equivalent training as determined by the Air Pollution Control Officer. Copies of the training certificates for the operators and maintenance engineers shall be submitted to the District and the original certificates shall be available for inspection at the facility with the permit to operate.

404 OPERATION AND MAINTENANCE PLAN: Any person using an emission control device as a means of complying with the emission limitations of Section 301 shall submit an Operation and Maintenance Plan with the application for Authority to Construct for the emission control device.

404.1 The Operation and Maintenance Plan shall specify:

- a. Operation and maintenance procedures that will demonstrate continuous operation of the emission control device during emission-producing operations; and
- b. Records that must be kept to document the operation and maintenance procedures.

404.2 The records must comply with Sections 501, 505, and 506.

404.3 The Operation and Maintenance Plan shall be implemented upon approval by the Air Pollution Control Officer.

404.4 After completing the construction of the emission control device, the Operation and Maintenance Plan shall be resubmitted annually for approval.

500 MONITORING AND RECORDS

501 MONITORING: Any person operating an incinerator subject to this rule shall maintain a data recording system which provides for each day of operation continuous recording of:

501.1 Primary and secondary combustion chamber temperatures;

501.2 Carbon monoxide emissions;

501.3 Hourly waste charging rates;

501.4 The opacity of stack emissions or other indicator of particulate matter which is approved by the Air Pollution Control Officer; and

501.5 Key operating parameters of the air pollution control equipment, as specified by the Air Pollution Control Officer.

502 DETERMINATION OF COMPLIANCE: For purposes of demonstrating initial or continued compliance with the emission limits of Section 301, any person operating an incinerator subject to this rule shall conduct the following source tests in the manner specified in Section 503:

502.1 Source test for Oxides of Nitrogen using ARB Test Method 100, Title 17, CCR, Section 94114, Procedures for Continuous Emission Stack Sampling, or EPA Test Method 7E.

502.2 Source test for Sulfur Dioxide using ARB Test Method 6, Title 17, CCR, Section 94106, Determination of Sulfur Dioxide Emissions from Stationary Sources, or ARB Test Method 100.

502.3 Source test for Carbon Monoxide using ARB Test Method 10, Title 17, CCR, Section 94109, Determination of Carbon Monoxide Emissions from Stationary Sources, or ARB Test Method 100.

- 502.4 One source test for Particulate Matter using ARB Test Method 5, Title 17, CCR, Section 94105, Determination of Particulate Matter Emissions from Stationary Sources, including non-volatile impinger catch.
- 502.5 One source test for Total Hydrocarbons using ARB Test Method 100, measured as equivalent methane.
- 502.6 One source test for Hydrochloric Acid using ARB Test Method 421, Title 17, CCR, Section 94131, Determination of Hydrochloric Acid Emissions from Stationary Sources, for waste or refuse-derived fuel incinerators, excluding crematoria.
- 502.7 One source test for Dioxins using ARB Test Method 428, Title 17, CCR, Section 94139, Determination of Polychlorinated Dibenzo-p-Dioxin (PCDD), Polychlorinated Dibenzofuran (PCDF), and Polychlorinated Biphenyl (PCB) Emissions from Stationary Sources, for waste or refuse-derived fuel incinerators, excluding crematoria. The high resolution mass spectrometry option of ARB Test Method 428 shall be used.
- 502.8 Source test for Carbon Dioxide using ARB Test Method 100, or EPA Test Method 3A.

Further source testing may be required by the Air Pollution Control Officer in accordance with Rule 501, Section 304, Provision of Sampling and Testing Facilities. The installed continuous emissions monitoring systems specified by Section 501 shall demonstrate compliance or non-compliance with the emission limitations of Section 301.

503 TEST REQUIREMENTS

- 503.1 Test Plan: At least sixty (60) days prior to any testing, a written test plan (two copies) detailing the test methods and procedures to be used shall be submitted for approval by the Air Pollution Control Officer. The plan shall cite the test methods to be used for the determination of compliance with the emission limitations of this rule, including any use of alternate test methods proposed in accordance with Section 504. The plan shall provide the proposed procedures for the characterization of the representative waste to be burned during testing.
- 503.2 Test Performance and Reporting: For purposes of determining compliance with Section 301, the source testing shall be conducted at the stack. Information regarding the composition (moisture content, heating value in British Thermal Units, and amount of the total waste, by weight percent, that is paper or cardboard, plastics, glass, wet garbage, or that is hazardous or radioactive) and feed rate of the waste and auxiliary fuel charged during the source test shall be provided with the test results. The Air Pollution Control Officer can require additional necessary information regarding the composition of the waste. Source testing shall be conducted at the maximum waste firing capacity (∇ 10 percent) allowed by the air district permit. A copy of all source test results conducted for purposes of demonstrating compliance with this rule shall be provided to the ARB at the same time that it is provided to the District.

- 504 ALTERNATE TEST METHODS:** Alternate test methods, may be used to demonstrate compliance with Section 301 in lieu of the specified test methods of Section 503 only if approved in writing by, both the Air Pollution Control Officer and the U.S. EPA. Such test methods may include EPA test methods specified in 40 CFR 60 Appendix A, required for sources subject to New Source Performance Standards.

- 505 RECORDKEEPING:** Maintenance records shall be kept for the incinerator, control equipment, and monitoring equipment; and calibration records for the monitoring equipment.
- 506 DURATION OF RECORDS:** All records maintained pursuant to this rule shall be retained for at least two years from date of entry, with the exception that sources subject to the requirements of Rule 507, FEDERAL OPERATING PERMIT PROGRAM, shall retain records at least five years. Records shall be made available for inspection by the Air Pollution Control Officer upon request.

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RULE 207 PARTICULATE MATTER

Adopted 11-12-74
(Amended 05-24-77, 06-19-79, 05-20-85, 10-19-93)

- A. For the Sacramento Valley Air Basin and the Mountain Counties Air Basin portions of the Placer County Air Pollution Control District a person shall not release or discharge into the atmosphere from any source or single processing unit, exclusive of sources emitting combustion contaminants only, particulate matter emissions in excess of: 0.1 grains per cubic foot of gas at District standard conditions.
- B. For the Lake Tahoe Air Basin portion of the Placer County Air Pollution Control District a person shall not release or discharge into the atmosphere from any source or single processing unit whatsoever, particulate matter emissions in excess of: 0.2 grains per cubic foot of gas at District standard conditions.

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RULE 208 ORCHARD OR CITRUS HEATERS

Adopted 11-12-74
(Amended 05-24-77)

- A. No person shall use any orchard or citrus heater unless it has been approved by the ARB, or does not produce more than 1 gram per minute of unconsumed solid carbonaceous material.
- B. All orchard heaters shall be maintained in reasonably clean condition, good repair and working order. Whenever orchard heaters are burning they must be adequately attended and supervised to maintain the condition, adjustment and proper operation of the orchard heaters.
- C. It shall be unlawful for any person, for the purpose of frost protection to burn any rubber, rubber tires or other substance containing rubber, or to burn oil or other combustible substances in drums, pails or other containers except orchard heaters.

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RULE 209 FOSSIL FUEL-STEAM FACILITY

Adopted 11-12-74
(Amended 05-24-77)

A person shall not build, erect, install or expand any fossil fuel fired steam generating facility unless the discharge into the atmosphere of contaminants will not and does not exceed any one or more of the following rates:

- A. 200 pounds per hour of sulfur compounds, calculated as sulfur dioxide (SO₂).
- B. 140 pounds per hour of nitrogen oxides, calculated as nitrogen dioxide (NO₂).
- C. 10 pounds per hour of combustion contaminants (as defined in RULE 102) derived from the fuel.

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RULE 210 SPECIFIC CONTAMINANTS

Adopted 11-12-74
(Amended 05-24-77, 12-19-78, 6-19-79, 05-20-85, 10-19-93)

- A. A person shall not discharge into the atmosphere from any source of emissions whatsoever, any one or more of the following contaminants, in any state or combination, therefore exceeding in concentration at point of discharge:
1. Sulfur compounds, calculated as sulfur dioxide (SO₂):
 - a. 0.2 percent by volume for the Sacramento Valley and Mountain Counties Air Basin portions of the Placer County Air Pollution Control District.
 - b. 500 parts per million by volume for the Lake Tahoe Air Basin portion of the Placer County Air Pollution Control District.
 2. Combustion Contaminants:
 - a. Wood fired boilers and incinerators in the Sacramento Valley and Mountain Counties Air Basin portions of the Placer County Air Pollution Control District: 0.2 grains per cubic foot of gas calculated to 12 percent carbon dioxide (CO₂) at standard conditions.
 - b. All other combustion sources in the Sacramento Valley and Mountain Counties Air Basin portions of the Placer County Air Pollution Control District and all combustion sources in the Lake Tahoe Air Basin portion of the District: 0.1 grains per cubic foot of gas calculated at 12 percent carbon dioxide (CO₂) at standard conditions.
- B. Particulate matter emitted from a source in which exhaust gases from a combustion unit or process are used to dry, calcine, pyrolyze, sinter, or otherwise condition (exclusive of combusting) any process material shall be excluded from calculation as combustion contaminants.

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RULE 211 PROCESS WEIGHT

Adopted 05-24-77
(Amended 06-19-79, 04-21-81, 05-20-85, 10-19-93)

A person shall not discharge into the atmosphere in any one hour from any source whatsoever solid particulate matter in excess of the amount shown in the following table:

ALLOWABLE RATE OF EMISSION BASED ON PROCESS WEIGHT RATE

Process Weight Rate lbs/hr	Emission Rate lbs/hr
50	0.4
100	0.6
500	1.5
1,000	2.3
5,000	6.3
10,000	9.7
20,000	15.0
60,000	29.6
80,000	31.2
120,000	33.3
160,000	34.9
200,000	36.2
400,000	40.4
1,000,000	46.8

Interpolation of the data from the process weight rate up to 60,000 lbs/hr shall be accomplished by the use of equation:

$$E = 3.59 P^{0.62} \quad P < 30 \text{ tons/hr}$$

and interpolation or extrapolation of the data for process weight rates in excess of 60,000 lbs/hr shall be accomplished by use of the equation:

$$E = 17.31 P^{0.16} \quad P > 30 \text{ tons/hr}$$

Where: E = Emission in pounds per hour
P = Process weight rate in tons per hour

A. The provisions of this Rule shall not apply to the following source categories located in the Sacramento Valley and Mountain Counties Air Basin portions of the District:

1. Combustion equipment which derives at least 80% of its fuel input heat content from wood or wood associated waste.
2. Incinerators.
3. Processing equipment used in conjunction with combustion sources to dry, calcine, pyrolyze, sinter or otherwise thermally condition any process material.

4. Sewage sludge incinerators, except that no person shall discharge from any sewage sludge incinerator particulate matter at a rate in excess of 1.30 lb/ton of dry sludge input. Performance tests used to determine compliance with this section shall comply with the provisions of CFR 40 Part 60, Appendix A, only.

RULE 212 STORAGE OF ORGANIC LIQUIDS

Adopted 5-24-77

(Amended 6-19-79, 9-25-90, 10-19-93, 11-03-94, 6-08-95, 6-19-97)

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100 GENERAL

101 PURPOSE: To limit emissions from storage tanks for organic liquids.

102 APPLICABILITY:

102.1 Geographic: The provisions of this rule apply to all of Placer County.

102.2 Business Function: This rule applies to any facility where organic liquids having a vapor pressure greater than 25.8 mm Hg (0.5 psia) are placed, stored, or held in any stationary tank, reservoir or other bulk container.

200 DEFINITIONS

201 EFFICIENCY: A comparison of controlled emissions to those uncontrolled emissions which would occur from a fixed or cone roof tank in the same product service without a vapor control system. Baseline emissions shall be calculated using the criteria in API Bulletin 2518.

202 EXEMPT COMPOUNDS: Exempt Compounds are defined in Rule 102, Definitions.

203 EXTERNAL FLOATING ROOF: A vapor loss control device, consisting of a pontoon-type or double-deck-type cover that rests on the surface of the liquid contents and which is equipped with an approved closure device between the tank shell and roof edge.

204 INTERNAL FLOATING ROOF: A vapor loss control device consisting of a fixed roof with an internal-floating-type cover which prevents the release or emission to the atmosphere of organic vapors or gases at an efficiency equivalent to an approved external floating roof closure device.

205 METALLIC-SHOE-SEAL: A type of seal used to minimize evaporative losses of organic liquids from a storage tank equipped with an external floating roof. It serves a primary seal, and is constructed with vertical metal plates or "shoes", connected by braces or other devices to the circumference of the floating roof. They are partially immersed in the liquid being stored, and are suspended in such a way that they are forced outward against the inner tank wall.

206 ORGANIC LIQUID: Any volatile organic compound which contains hydrogen and which would exist as a liquid at actual conditions of use or storage.

207 PRESSURE TANK: A closed storage tank designed and constructed to (1) operate at internal pressures above one atmosphere, (2) be able to withstand the vapor pressure of the stored liquid under all storage conditions and (3) prevent at all times the loss of such material or its vapor to the atmosphere.

208 RESILIENT-TOROID-SEAL: A type of seal used to minimize evaporative losses of organic liquids from a storage tank equipped with an external floating roof. It is a toroidal tube, or "donut", made of fabric or other resilient material, that rests on the surface of the stored liquid. It serves as primary seal that minimizes evaporative losses from the tank. The toroid seal may be filled with air, foam, or other resilient material.

209 STORAGE TANK: Any stationary container, reservoir, or tank used for the storage of organic liquids.

210 VAPOR PRESSURE: The vapor pressure under actual storage conditions as determined by the test methods specified in Section 502.1.

- 211 VAPOR RECOVERY SYSTEM:** A California Air Resources Board (CARB) - certified system that collects organic vapors and gases from a storage tank and either returns them to the tank or otherwise processes them to prevent or reduce emissions to the atmosphere.
- 212 VAPOR TIGHT:** A condition when the concentration of total hydrocarbons does not exceed 10,000 ppm (expressed as methane) above background, as determined by EPA Reference Method 21. Background shall be defined as the ambient concentration of organic compounds determined at least three (3) meters upwind of the potential source and not influenced by any specific emissions source.
- 213 VOLATILE ORGANIC COMPOUNDS (VOC):** Compounds which contain at least one atom of carbon, except for the Exempt Compounds.

300 STANDARDS

- 301 STORAGE TANKS WITH A CAPACITY GREATER THAN 40,000 GALLONS:** A person shall not store any organic liquid having a vapor pressure greater than 25.8 mm Hg (0.5 psia), in any storage tank with a capacity greater than 40,000 gallons, unless such tank is (1) a pressure tank maintaining working pressures sufficient at all times to prevent organic vapor or gas loss to the atmosphere, or (2) designed and equipped with one of the vapor loss control devices as specified in Sections 306, 307, and 308 of this rule.
- 302 STORAGE TANKS WITH A CAPACITY LESS THAN OR EQUAL TO 40,000 GALLONS:** A person shall not store any organic liquid having a vapor pressure greater than 25.8 mm Hg (0.5 psia), in any storage tank with a capacity less than or equal to 40,000 gallons, unless such tank is equipped with one of the following:
- 302.1 A submerged fill pipe.
 - 302.2 An apparatus of efficiency equal to a submerged fill pipe and which has been approved by the Air Pollution Control Officer.
 - 302.3 One of the vapor loss control devices that complies with the applicable requirements of Sections 306 through 313 of this rule.
- 303 STORAGE TANKS WITH A CAPACITY GREATER THAN 20,000 GALLONS AND LESS THAN OR EQUAL TO 40,000 GALLONS:** A person shall not store any organic liquid having a vapor pressure greater than 77.5 mm Hg (1.5 psia) in any storage tank with a capacity greater than 20,000 gallons, but less than or equal to 40,000 gallons, unless such tank is (1) a pressure tank maintaining working pressures sufficient at all times to prevent organic vapor or gas loss to the atmosphere, or (2) designed and equipped with one of the vapor loss control devices as specified in Sections 306 through 313 of this rule.
- 304 ABOVE GROUND STORAGE TANKS WITH A CAPACITY GREATER THAN 10,000 GALLONS AND LESS THAN OR EQUAL TO 20,000 GALLONS:** A person shall not store any organic liquid having a vapor pressure greater than 77.5 mm Hg (1.5 psia) in any above ground storage tank with a capacity greater than 10,000 gallons, but less than or equal to 20,000 gallons capacity, unless such tank is (1) equipped with a pressure-vacuum valve which is set to operate at a pressure within 10% of the maximum allowable working pressure of the tank, or at a pressure of at least 25.8 mm Hg (0.5 psia), or (2) equipped with a vapor loss control device as specified in Sections 306 through 313 of this rule.

- 305 ANY STORAGE TANK CONTAINING ORGANIC LIQUIDS WITH A VAPOR PRESSURE GREATER THAN 569 mm Hg (11 psia):** A person shall not store organic liquid with a vapor pressure greater than 569 mm Hg (11 psia) in any storage tank unless such tank is (1) a pressure tank maintaining working pressures sufficient at all times to prevent organic vapor or gas loss to the atmosphere, or (2) designed and equipped with a vapor recovery system which meets the requirements of Section 308 of this rule.
- 306 EXTERNAL FLOATING ROOF:** This vapor loss control device, as defined in Section 203, shall be equipped with a closure device that consists of two seals, one above the other; the one below shall be referred to as the primary seal and the one above shall be referred to as the secondary seal. Seal designs shall be submitted to the Air Pollution Control Officer and shall not be installed or used unless they are approved by the Air Pollution Control Officer as meeting the criteria set forth within this section and the applicable closure requirements of Sections 309 through 313 of this rule.
- 307 INTERNAL FLOATING ROOF:** This vapor loss control device with a fixed external roof, as defined in Section 205, shall prevent the release or emission to the atmosphere of organic vapors or gases at an efficiency equivalent to a floating roof closure device which meets the applicable requirements of Sections 309 through 313 of this rule.
- 308 VAPOR RECOVERY SYSTEM:**
- 308.1 Any installed vapor recovery system shall be a CARB certified vapor recovery system capable of collecting organic vapors and gases, and shall include a vapor return or disposal system capable of processing such vapors and gases to prevent their emission to the atmosphere, at an efficiency of at least 95 percent by weight, determined in accordance with the applicable test method of Section 502.2.
- 308.2 Any tank gauging or sampling device on a tank vented to the vapor recovery system shall be equipped with a vapor-tight cover which shall be closed at all times except during gauging or sampling.
- 308.3 All piping, valves and fittings shall be constructed and maintained in a vapor-tight condition, as defined in Section 212.
- 309 CRITERIA FOR METALLIC-SHOE-SEAL CLOSURES:**
- 309.1 Metallic-shoe-type seals shall be installed so that one end of the shoe extends into the stored liquid and the other end extends a minimum vertical distance of 61 cm (24 inches) above the stored liquid surface.
- 309.2 The geometry of the shoe shall be such that the maximum gap between the shoe and the tank shell is no greater than double the gap allowed by the seal gap criteria for a length of at least 46 cm (18 inches) in the vertical plane above the liquid surface.
- 309.3 There shall be no holes or tears in, or openings through the secondary seal or in the primary seal envelope surrounding the annular vapor space enclosed by the roof edge, stored liquid surface, shoe, and seal fabric.
- 309.4 The secondary seal shall extend from the roof to the tank shell and shall not be attached to the primary seal.

- 309.5 Any roof drain which opens directly into the organic liquid content in the tank shall be provided with a slotted membrane fabric cover, or equivalent, that covers at least 90% of the area of the opening.
- 309.6 All openings in the roof, except pressure-vacuum valves, shall provide a projection below the liquid surface to prevent belching of liquid and to prevent entrained or formed organic vapor from escaping from the liquid contents of the tank and shall be equipped with a cover, seal or lid. The cover, seal, or lid shall at all times be in a closed position, with no measurable gap exceeding 0.32 cm (1/8 in.), except when the device or appurtenance is in use. Pressure-vacuum valves located in the roof shall be set to within ten percent of the maximum allowable working pressure of the roof.

310 CRITERIA FOR WELDED TANKS WITH METALLIC-SHOE-SEALS: Any welded tank shell which uses a metallic-shoe-type seal shall meet the following conditions:

- 310.1 No gap between the tank shell and the primary seal shall exceed 3.8 cm (1-1/2 inches). The cumulative length of all primary seal gaps exceeding 1.3 cm (2 inch) shall be not more than 10% of the circumference; the cumulative length of all primary seal gaps exceeding 0.32 cm (1/8 inch) shall not be more than 40 percent of the circumference. No continuous gap greater than 0.32 cm (1/8 inch) shall exceed 10% of the circumference of the tank.
- 310.2 No gap between the tank shell and the secondary seal shall exceed 1.3 cm (2 inch). The cumulative length of all secondary seal gaps exceeding 0.32 cm (1/8 inch) shall not exceed 5 percent of the circumference of the tank.
- 310.3 The secondary seal shall allow easy insertion of probes up to 3.8 cm (1-1/2 inches) in width in order to measure gaps in the primary seal.

311 CRITERIA FOR RIVETED TANKS WITH METALLIC-SHOE-SEALS: Any riveted tank shell which uses a metallic-shoe-seal shall meet the following conditions:

- 311.1 No gap between the tank shell and the primary seal shall exceed 6.4 cm (2-1/2 in.). The cumulative length of all primary seal gaps exceeding 3.8 cm (1-1/2 in.) shall not be more than 10% of the circumference.
- 311.2 The secondary seal shall consist of at least two sealing surfaces, such that the sealing surfaces prevent the emission of organic compounds around the rivets. Serrated sealing surfaces are allowable if the length of serration does not exceed 15.2 cm (6 in.). No gap between the tank shell and the secondary seal shall exceed 1.3 cm (2 in.). The cumulative length of all secondary seal gaps exceeding 0.32 cm (1/8 in.) shall not be more than 5% of the circumference.
- 311.3 The secondary seal shall allow easy insertion of probes up to 3.8 cm (1-1/2 inches) in width in order to measure gaps in the primary seal.

312 CRITERIA FOR RESILIENT-TOROID-SEAL: Any storage tank which uses a resilient-toroid-type seal shall meet the following conditions:

- 312.1 No gap between the tank shell and the primary seal shall exceed 1.3 cm (2 inch). The cumulative length of all gaps exceeding 0.32 cm (1/8 inch) shall not be more than 5% of the circumference.

- 312.2 No gap between the tank shell and the secondary seal shall exceed 1.3 cm (2 inch). The cumulative length of all gaps exceeding 0.32 cm (1/8 inch) shall not be more than 5% of the circumference.
- 312.3 The secondary seal shall allow easy insertion of probes up to 1.3 cm (2 inch) in width in order to measure gaps in the primary seal.
- 312.4 There shall be no holes or tears in, or openings through the secondary seal or in the primary seal envelope surrounding the annular vapor space enclosed by the roof edge, stored liquid surface, shoe, and seal fabric.

313 CRITERIA FOR WELDED TANKS WITH ZERO GAP SECONDARY SEALS: Any welded tank shell which uses a zero gap secondary seal must meet the following conditions:

- 313.1 No gap between the tank shell and the primary seal shall exceed 3.8 cm (1-1/2 inches). The cumulative length of all primary seal gaps exceeding 1.3 cm (2 inch) shall be not more than 10% of the circumference and the cumulative length of all primary seal gaps exceeding 0.32 cm (1/8 inch) shall not be more than 40% of the circumference. No continuous gap greater than 0.32 cm (1/8 inch) shall exceed 10% of the circumference of the tank.
- 313.2 No gap between the tank shell and the secondary seal shall exceed 1.5 mm (0.06 in.). The cumulative length of all secondary seal gaps exceeding 0.5 mm (0.02 inch) shall not exceed 5% of the circumference of the tank, excluding gaps less than 5 cm (1.79 in.) from vertical weld seams.
- 313.3 The secondary seal must exert a positive pressure against the tank shell such that the seal surface in contact with the tank shell does not pull away from the tank shell more than the gaps allowed in Section 313.2.

400 ADMINISTRATIVE REQUIREMENTS

401 PRIMARY SEAL INSPECTION:

- 401.1 The primary seal envelope shall be made available for unobstructed inspection by the District on an annual basis at four locations selected along its circumference at random by the APCO. If the District detects one or more violations as a result of any such inspection, the District may require such further unobstructed inspection of the primary seal as may be necessary to determine the seal condition for its entire circumference. The District shall also have the authority to require more inspection locations if the inspector suspects the possibility of a cumulative gap criteria violation.
- 401.2 In addition, for tanks with secondary seals the primary seal envelope shall be made available for inspection by the District prior to the installation of the secondary seal. For tanks with secondary seals installed before June 19, 1979, the primary seal envelope shall be made available for unobstructed inspection by the District for its full length every 5 years after June 19, 1979, except that if the secondary seal is voluntarily removed by the owner or operator prior thereto, it shall be made available for such inspection at that time. The owner or operator shall provide notification to the District no less than 7 working days prior to voluntary removal of the secondary seal.

500 MONITORING AND RECORDS

501 RECORDKEEPING:

- 501.1 A person whose tanks are subject to this Rule shall keep an accurate record of liquids stored in such containers and the vapor pressure ranges of such liquids.
- 501.2 Accurate records of throughput and stock temperature shall also be maintained.
- 501.3 Records shall include the number of organic liquid storage tanks serviced and their respective capacities in gallons.
- 501.4 Records shall be retained for a period of at least 2 years, and shall be retained at least 5 years by sources subject to the requirements of Rule 507, Federal Operating Permit Program, and made available to the Air Pollution Control Officer on request.
- 501.5 In addition to the recordkeeping requirements specified herein, all applicable provisions of Rule 410, Recordkeeping for Volatile Organic Compounds Emissions, shall be met.

502 TEST METHODS

- 502.1 Vapor Pressure Determination: The vapor pressure under actual storage conditions is determined by ASTM method D-2879-83 or ASTM method D-323-82.
- 502.2 Vapor Recovery System Testing: The determination of the overall vapor recovery system efficiency required in Section 308 shall be made using the following test procedures, as applicable:
 - 502.2.1 California Air Resources Board Test Method TP 202.1, Determination of Emission Factor of Vapor Recovery Systems at Gasoline Bulk Plants.
 - 502.2.2 California Air Resources Board Test Method TP 203.1, Determination of Emission Factor of Vapor Recovery Systems at Gasoline Terminals.
- 502.3 Vapor-Tight Condition Testing: EPA Reference Method 21 shall be used to test for vapor-tight condition.

RULE 213 GASOLINE TRANSFER INTO STATIONARY STORAGE CONTAINERS

Adopted 06-19-79
(Amended 04-21-81, 05-20-85, 09-25-90, 10-19-93)

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1.0 GENERAL

1.1 APPLICABILITY

- 1.1.1 The provisions of this rule shall apply to the transfer of gasoline into any stationary storage containers, except as provided in Section 3.2 of this rule.

2.0 DEFINITIONS

- 2.1 **AVERAGE MONTHLY THROUGHPUT** - is defined as the total gasoline unloaded and dispensed in the most recent full calendar year from the facility's storage tanks divided by twelve.
- 2.2 **GASOLINE** - is defined as Petroleum distillates used as motor fuel with a Reid vapor pressure greater than 4.0 pounds.
- 2.3 **GASOLINE BULK PLANT** - is defined as a distributing facility, with a throughput less than or equal to 20,000 gallons a day, which receives gasoline, stores it in stationary tanks, and loads it into tank trucks for delivery to service stations or other distribution points.
- 2.4 **GASOLINE VAPORS** - are defined as the displaced vapors including any entrained liquid gasoline.
- 2.5 **LEAK FREE** - is defined as a liquid leak of less than three drops per minute excluding losses which occur upon disconnecting transfer fittings, provided such disconnect losses do not exceed 10 milliliters (0.34 fluid ounces) per disconnect, averaged over three disconnects.
- 2.6 **REID VAPOR PRESSURE** - is defined as the absolute vapor pressure of volatile crude oil and volatile non-viscous petroleum liquids, except liquefied petroleum gases, and determined by ASTM-323-58.
- 2.7 **SUBMERGED FILL PIPE** - is defined as any fill pipe, the discharge opening of which is entirely submerged when the liquid level is 6.0 inches above the bottom of the container. "Submerged fill pipe" when applied to a container which is loaded from the side is defined as any fill pipe the discharge opening of which is entirely submerged when the liquid level is 18.0 inches above the bottom of the container.
- 2.8 **VAPOR TIGHT** - is defined as the concentration of total hydrocarbons, measured 1 cm from any source, not to exceed 10,000 ppm (expressed as methane) above background, as determined by EPA Reference Method 21.
- 2.9 **VAPOR TIGHT GASOLINE CARGO TANK** - is defined as a leak that does not exceed the standards as specified in EPA Reference Test Method 27.

3.0 STANDARDS

3.1 TRANSFER PROVISIONS

- 3.1.1 A person shall not transfer or permit the transfer of gasoline from any tank truck or trailer into any stationary storage container with a capacity of more than 250 gallons unless such container is provided with a permanent submerged fill pipe and unless such transfer is made under the following conditions:
- 3.1.2 The displaced gasoline vapors or gases are processed by a vapor recovery system that shall collect at least 95 percent by weight, as determined by ARB

Test Method 2-3, of the hydrocarbon vapors vented during filling of the stationary storage container and the system has been certified for installation by the California Air Resources Board.

- 3.1.3 Transfer is made to a storage container equipped as required in RULE 212.
- 3.1.4 Loading shall be accomplished in such a manner that all displaced vapor and air will be vented only to the vapor recovery system. Measures shall be taken to ensure that the loading device is leak free when it is not in use and to accomplish complete drainage before the loading device is disconnected.
- 3.1.5 The vapor recovery system shall be maintained and operated so that it does not cause the pressure in a gasoline delivery vessel to exceed 18 inches water gauge or the vacuum to exceed 6 inches water gauge.
- 3.1.6 All vapor recovery equipment and gasoline loading equipment shall be maintained in good working order and shall be leak free and vapor tight.
- 3.1.7 In no instance shall the gasoline loading operations exceed the capacity of the vapor processing unit.
- 3.1.8 No person shall store gasoline in or otherwise use or operate any gasoline delivery vessel unless such vessel is designed and maintained to be leak free and vapor tight. Any delivery vessel into which gasoline vapors have been transferred, shall be refilled only at a gasoline bulk plant or terminal that is equipped with a system that prevents at least 95 percent by weight of the gasoline vapors displaced from entering the atmosphere.
- 3.1.9 A person shall not operate any gasoline loading facility which is not subject to the provisions of RULE 215 unless:
 - 3.1.10 The facility is equipped and operated with a system or systems to prevent the release to the atmosphere of at least 95 percent by weight, as determined by ARB Test Method 2-3, of the gasoline vapors displaced during the filling of the facility's stationary storage containers; and
 - 3.1.11 The facility is equipped and operated with a pressure-vacuum relief valve on the above ground stationary storage containers with a minimum pressure valve setting of 90 percent of the maximum safe pressure and vacuum ratings of the containers, provided that such setting will not exceed the container's maximum pressure rating.

3.2 EXEMPTIONS

- 3.2.1 The provisions of this Rule shall not apply to the transfer of gasoline into any stationary storage container:
- 3.2.2 Which has a capacity of less than 550 gallons and is used exclusively for the fueling of implements of husbandry as such vehicles are defined in Division 16 (Section 3600 et seq.) of the California Vehicle Code, if such container is equipped with a permanent submerged fill pipe.
- 3.2.3 With a capacity of 2,000 gallons or less and installed before January 1, 1979, if such container is equipped with a permanent submerged fill pipe.

3.3 TEST METHODS

3.3.1 Reference methods for compliance testing for this rule are specified in 40 CFR 60.503.

3.3.2 EPA Reference Method 21 shall be used to test for vapor tight condition or liquid leaks.

4.0 ADMINISTRATIVE

4.1 COMPLIANCE SCHEDULE

4.1.1 Any source of emission subject to this Rule, installed on or after January 1, 1979, shall comply with the provisions of this Rule no later than six months from the date of adoption.

4.2 RECORDKEEPING

4.2.1 The owner or operator of any facility subject to the provisions of this rule shall prepare a daily log of the throughput and a summary of the throughput for the calendar year to date of the liquid compounds subject to the provisions of this rule. Such records shall be maintained at the facility for at least 2 years and shall be made available to the APCO upon request.

4.2.2 Records shall include the number of gasoline storage tanks serviced and their respective capacities in gallons.

4.2.3 In addition to the recordkeeping requirements specified herein, all provisions of Regulation IV, RULE 410, when applicable, must still be adhered to.

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RULE 214 TRANSFER OF GASOLINE INTO VEHICLE FUEL TANKS

Adopted 06-19-79
(Amended 04-21-81)

- A. A person shall not transfer or permit the transfer of gasoline from a stationary storage container subject to the provisions of RULE 213(A) into any motor vehicle fuel tank of greater than 5 gallons capacity unless such transfer is made through a fill nozzle which directs the gasoline vapors displaced by the transfer through the fill nozzle to a system, certified for installation by the California Air Resources Board, that will prevent at least 95 percent by weight of such gasoline vapors from entering the atmosphere.
- B. The provisions of Section (A) shall not be subject to gasoline dispensing facilities located in that part of Placer County east of Range 8, Mount Diablo Base and Meridian.
- C. Any gasoline dispensing system subject to this Rule, installed after June 19, 1978 shall comply with the provisions of this Rule at the time of installation.
- D. Gasoline dispensing equipment used to comply with the provisions of this Rule shall comply with all applicable safety, fire, weights and measures, and other applicable codes and/or regulations.
- E.
 - 1. For the purposes of this Rule, the term "gasoline" is defined as any petroleum distillate having a Reid vapor pressure of 4 pounds or greater.
 - 2. For the purposes of this Rule, "motor vehicle" is defined as any vehicle registered with the California Department of Motor Vehicles.

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RULE 215 TRANSFER OF GASOLINE INTO TANK TRUCKS, TRAILERS AND RAILROAD TANK CARS AT LOADING FACILITIES

Adopted 6-19-79
(Amended 9-25-90, 11-03-94, 6-19-97)

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100 GENERAL

101 PURPOSE: To limit the emissions of volatile organic compounds (VOC) during gasoline transfer operations at bulk plants and bulk terminals.

102 APPLICABILITY:

102.1 Geographic: This provisions of this rule apply to all of Placer County.

102.2 Business Function: This rule applies to any bulk plant or bulk terminal where gasoline is loaded into a truck, trailer or railroad tank car, and to any person who owns, operates or is employed at such facility.

200 DEFINITIONS

201 BULK PLANT: A gasoline distribution facility which receives gasoline exclusively by tank truck from a refinery or bulk terminal and has a throughput less than or equal to 20,000 gallons per day or 5,000,000 gallons per year.

202 BULK TERMINAL: A gasoline distribution facility which receives gasoline from a refinery by pipeline, ship, or barge and has a throughput greater than 20,000 gallons per day or 5,000,000 gallons per year.

203 CAPACITY: The maximum volumetric quantity of liquid that may be stored in a tank.

204 EXEMPT COMPOUNDS: Exempt compounds are as defined in Rule 102, Definitions.

205 GASOLINE: Any organic liquid (including petroleum distillates and methanol) having a Reid Vapor Pressure of 4.0 pounds or greater and used as a motor vehicle fuel, or any fuel which is commonly or commercially known or sold as gasoline.

206 GASOLINE VAPORS: The displaced vapors including any entrained liquid gasoline.

207 LEAK FREE: Any liquid leak of less than three drops per minute excluding losses which occur upon disconnecting transfer fittings, provided such disconnect losses do not exceed 10 milliliters (0.34 fluid ounces) per disconnect, averaged over three contiguous disconnects.

208 ORGANIC LIQUID: Any volatile organic compound which contains hydrogen and which would exist as a liquid at actual conditions of use or storage.

209 REID VAPOR PRESSURE: The absolute vapor pressure of volatile crude oil and volatile non-viscous petroleum liquids, except liquefied petroleum gases, and determined by ASTM-323-58.

210 SWITCH LOADING: The transfer of organic liquids with a Reid Vapor Pressure of less than 4.0 lbs into a delivery vessel where the previous load was gasoline.

211 VAPOR TIGHT: A condition when the concentration of total hydrocarbons does not exceed 10,000 ppm (expressed as methane) above background, as determined by EPA Reference Method 21. Background shall be defined as the ambient concentration of organic compounds determined at least three (3) meters upwind of the potential source and not influenced by any specific emissions source.

212 VOLATILE ORGANIC COMPOUNDS: Compounds which contain at least one atom of carbon, except for the Exempt Compounds.

300 STANDARDS

301 TRANSFER PROVISIONS:

- 301.1 Vapor Recovery System Certification: A person shall not load gasoline into any tank truck, trailer, or railroad tank car from any bulk plant or bulk terminal, unless the loading device or equipment is equipped with a California Air Resources Board certified vapor recovery and disposal system.
- 301.2 Loading Procedures: Loading shall be accomplished in such a manner that all displaced vapor and air will be vented only to the vapor recovery system. Measures shall be taken to ensure complete drainage before the loading device is disconnected and the loading device shall be maintained in a vapor tight and leak free condition when not in use.
- 301.3 Bulk Plants: A person shall not transfer or permit the transfer of gasoline into any tank truck, trailer, or railroad tank car unless the emission of gasoline vapors and gases to the atmosphere does not exceed 0.6 pounds of Volatile Organic Compounds (VOC) per one thousand (1,000) gallons of gasoline transferred as determined by a method specified in Section 502.1.
- 301.4 Bulk Terminals: A person shall not transfer or permit the transfer of gasoline into any tank, truck, trailer, or railroad tank car unless the emission of gasoline vapors and gases to the atmosphere does not exceed 0.08 pounds of Volatile Organic Compounds (VOC) per one thousand (1,000) gallons of gasoline transferred as determined by the method specified in Section 502.2.

302 OTHER OPERATING REQUIREMENTS:

- 302.1 The loading facility vapor recovery system shall not create a back-pressure in excess of the pressure limits of the delivery vessel certification leak test (18 inches of water gauge).
- 302.2 All vapor recovery equipment and gasoline loading equipment shall be maintained in good working order and shall be leak free and vapor tight.
- 302.3 Switch loading shall be subject to Sections 301.3 and 301.4 of this rule.
- 302.4 Transfer equipment shall be configured to require that the gasoline delivery vessel be bottom loaded.
- 302.5 In no instance shall the gasoline loading operations exceed the capacity of the vapor processing unit.

400 ADMINISTRATIVE REQUIREMENTS

401 COMPLIANCE SCHEDULE:

- 401.1 By November 3, 1995, any person subject to this rule shall submit an application for Authority to Construct for any modifications required to achieve compliance with the requirements of this rule.

- 401.2 By November 3, 1996, any person subject to this rule shall demonstrate final compliance with all applicable standards and requirements of this rule. Compliance with Section 301 shall constitute compliance with Section 401 unless it is determined that the equipment does not comply with section 301.3 and 301.4.

500.MONITORING AND RECORDS

501 RECORDKEEPING:

- 501.1 The owner or operator of any facility subject to the provisions of this rule shall prepare a daily log of the throughput and a summary of the throughput for the calendar year to date of the liquid compounds subject to the provisions of this rule. Such records shall be retained at the facility for at least 2 years, and shall be retained for at least 5 years for sources subject to the requirements of Rule 507, Federal Operating Permit Program, and shall be made available to the Air Pollution Control Officer upon request.
- 501.2 Records shall include the number of petroleum storage tanks serviced and their respective capacities in gallons.
- 501.3 In addition to the recordkeeping requirements specified herein, all provisions of Rule 410, Recordkeeping for Organic Compound Emissions, shall apply.

502 TEST METHODS: Reference test methods for compliance testing shall be the following, as applicable:

- 502.1 California Air Resources Board Test Method TP 202.1, "Determination of Emission Factors of Vapor Recovery Systems at Gasoline Bulk Plants".
- 502.2 California Air Resources Board Test Method TP 203.1, "Determination of Emission Factors of Vapor Recovery Systems at Gasoline Terminals".
- 502.3 EPA Reference Method 21 shall be used to test for vapor tight condition or liquid leaks.

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RULE 216 ORGANIC SOLVENT CLEANING AND DEGREASING OPERATIONS

Adopted 06-19-79
(Amended 04-21-81, 09-25-90, 11-03-94, 06-08-95, 12-11-03)

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100 GENERAL

101 PURPOSE: To limit the emission of volatile organic compounds from degreasers.

102 APPLICABILITY:

102.1 Geographic: The provisions of this rule apply to all of Placer County.

102.2 Operations: This rule applies to solvent degreasing operations performed in non-vapor degreasers and vapor degreasers.

103 SEVERABILITY: If a court of competent jurisdiction issues an order that any provision of this rule is invalid, it is the intent of the Board of Directors of the District that other provisions of this rule remain in full force and effect, to the extent allowed by law.

104 EXEMPTIONS

104.1 The provisions of this rule shall not apply to solvent degreasing operations using exempt compounds mixed with volatile organic compounds provided that the mixture does not contain more than two (2) percent volatile organic compounds by weight.

104.2 The provisions in Section 302 of this rule shall not apply to non-vapor degreasers which have an air-solvent interface area less than or equal to 1.0 ft², except for requirements that cleaners shall be covered when work is not being processed, or to remote reservoir degreasers using a non-volatile solvent spray which is drained into the remote reservoir concurrently with the degreasing operation.

104.3 The provisions of this rule shall not apply to non-vapor degreasers, which use solvents that contain 50 grams per liter or less VOCs including water and exempt compounds.

104.4 The provisions of Section 307.8 of this rule do not apply to open-top vapor degreasers where solvent flow complies with Section 307.11.2 and liquid solvent does not splash above the air vapor interface.

104.5 The provisions of this rule shall not apply to solvent degreasing operations that are subject to the NESHAP requirements of 40 CFR Part 63 Subpart T – Halogenated Solvents Emissions from Solvent Cleaning.

104.6 The 50 grams VOC per liter limit in Section 302.2 does not apply to a non-vapor degreaser or to a remote reservoir degreaser that uses a solvent that complies with the VOC limit specified for the cleaning activity listed in Section 301 of Rule 240, Surface Preparation and Cleanup. Any non-vapor degreaser exempt under this section shall comply with other requirements of this rule.

104.7 The provisions of this rule shall not apply to products subject to the California Air Resources Board Consumer Products Regulations as set forth in Subchapter 8.5, Article 2, Section 94507-94517 of Title 17 of the California Code of Regulations.

104.8 The provisions of this rule shall not apply to wipe cleaning. Wipe cleaning requirements are specified in Rule 240 - Surface Preparation And Cleanup.

200 DEFINITIONS

- 201 AIRTIGHT/AIRLESS CLEANING SYSTEM:** A sealed cleaning system that has no open air/vapor or air/solvent interface, and is designed and automatically operated to minimize the discharge or leakage of solvent vapor emissions to the atmosphere during all cleaning and vacuum drying operations. The system consists of devices to condense and recover solvent and solvent vapor, and control devices to remove solvent vapors from all gas streams that vent to the atmosphere.
- 202 CIRCUMFERENTIAL TROUGH:** A receptacle located below the primary condenser that conveys condensed solvent and atmospheric moisture to a water separator.
- 203 CLOSED CONTAINER:** A container, which has a nonabsorbent cover where the cover meets with the main body of the container without any visible gaps between the cover and the main body of the container.
- 204 CONVEYORIZED DEGREASER:** Any continually loaded, conveyORIZED degreaser, using solvent that is maintained either above or below the initial boiling point temperature of the solvent.
- 205 DEGREASER:** A tank, tray, drum, or other container in which objects to be cleaned are exposed to a degreasing solvent or degreasing solvent matter.
- 206 EXEMPT COMPOUNDS:** For the purpose of this rule, "Exempt Compounds" has the same meaning as in Rule 102, Definitions.
- 207 FREEBOARD HEIGHT:**
- 207.1 For non-vapor degreasers, freeboard height means the distance from the top of the solvent, or the solvent drain of a remote reservoir cold cleaner, to the top of the tank.
 - 207.2 For vapor degreasers, freeboard height means the distance from the solvent vapor-air interface to the top of the degreaser.
 - 207.3 For conveyORIZED degreasers, freeboard height means the vertical distance from the top of the solvent (non-vapor solvent) or the top of the vapor-air interface (vapor degreaser), to the bottom of the lowest opening where solvent vapors can escape.
- 208 FREEBOARD RATIO:** The freeboard height divided by the smaller of the inside length or the inside width of the degreaser's evaporative surface area.
- 209 KEY SYSTEM OPERATING PARAMETER:**
- 209.1 A variable that is critical to the operation of an emission control system and that ensures:
 - 209.1.1 Operation of the system within the system manufacturer's specifications, and
 - 209.1.2 Compliance with the overall system efficiency standard required by Section 310.

209.2 Variables described in Section 209.1 may include, but are not limited to:

209.2.1 Hours of operation,

209.2.2 Temperature,

209.2.3 Flow rate, and

209.2.4 Pressure.

210 LEAK: A leak is:

210.1 The dripping of liquid volatile organic compounds in excess of three drops per minute; or

210.2 The appearance of a visible mist.

211 LIP EXHAUST: A system, which collects solvent vapors escaping from the top of a degreaser and directs them away from operating personnel.

212 LOW VOLATILITY SOLVENT: Any solvent with an initial boiling point, which is greater than 248°F (120°C).

213 MAKEUP SOLVENT: The solvent added to the degreaser to replace solvent lost through evaporation or other means.

214 NESHAP: National Emission Standards for Hazardous Air Pollutants.

215 NON-VAPOR DEGREASER: Any degreaser using solvent, which, if heated, is maintained, below the initial boiling point temperature of the solvent.

216 OPEN-TOP VAPOR DEGREASER: Any batch-loaded degreaser using solvent which is maintained above the initial boiling point temperature of the solvent. Degreasing occurs through the condensation of the resultant solvent vapor onto the surface of the workload.

217 OSHA: Occupational Safety and Health Administration.

218 REFRIGERATED FREEBOARD CHILLER: A secondary cooling coil mounted above the primary condenser which provides a chilled air blanket above the solvent vapor-air interface to cause the condensation of additional solvent vapor, thereby increasing vapor control efficiency.

219 REMOTE RESERVOIR DEGREASER: A non-vapor degreaser with a tank that is completely enclosed except for a solvent return opening no larger than 15.50 square inches (100 square centimeters) which allows used solvent to drain into it from a separate solvent sink or work area and which is not accessible for soaking workloads.

220 SOLVENT: Any liquid containing volatile organic compounds, which is used to perform solvent degreasing.

221 SOLVENT DEGREASING: The removal of contaminants with solvents from parts, products, tools, machinery, and equipment, including the subsequent drying of the items.

222 STATIONARY SOURCE (SOURCE OR FACILITY): Any building, structure, facility, or emissions unit, which emits or may emit any affected pollutant directly or as fugitive emissions.

- 222.1 Building, structure, facility, or emissions unit includes all pollutant emitting activities which:
- 222.1.1 belong to the same industrial grouping, and;
 - 222.1.2 are located on one property or on two or more contiguous properties, and;
 - 222.1.3 are under the same or common ownership, operation, or control or which are owned or operated by entities, which are under common control.
- 222.2 Pollutant emitting activities shall be considered as part of the same industrial grouping if:
- 222.2.1 they belong to the same two-digit standard industrial classification code under the system described in the 1987 Standard Industrial Classification Manual, or;
 - 222.2.2 they are part of a common production process. (Common production process includes industrial processes, manufacturing processes and any connected processes involving a common material.)
- 223 SUPERHEATED VAPOR ZONE:** A region located within the vapor zone of a degreaser whereby solvent vapors are heated above the solvent's boiling point.
- 224 VOLATILE ORGANIC COMPOUND (VOC):** For purpose of this rule, "volatile organic compound" has the same meaning as in Rule 102, Definitions.
- 225 VOLATILE SOLVENT:** Any solvent, which is not defined as a low volatility solvent pursuant to Section 212.
- 226 WIPE CLEANING:** A method of cleaning which utilizes a material such as a rag wetted with a solvent, coupled with a physical rubbing process to remove contaminants from surfaces.
- 227 WORKLOAD:** The objects put in a degreaser for the purpose of removing oil, grease, soil, coating, dirt or other undesirable matter from the surface of the objects.

300 STANDARDS

- 301 GENERAL EQUIPMENT REQUIREMENTS:** Any person who uses a degreaser shall utilize the following equipment:
- 301.1 An apparatus or cover, which prevents the solvent from evaporating when not processing work in the degreaser.
 - 301.1.1 For non-vapor degreasers using volatile solvent, or solvent that is agitated, the cover shall be a sliding, rolling or guillotine (bi-parting) type which can be opened and closed easily with one hand.
 - 301.1.2 For open-top vapor degreasers, the cover shall be a sliding, rolling or guillotine (bi-parting) type, which can be opened and closed easily without disturbing the vapor zone.
 - 301.1.3 For conveyORIZED degreasers, a cover shall be provided for closing off the entrance and exit when not in use.

- 301.2 A facility for draining cleaned parts such that the drained solvent is returned to the container.
- 301.3 A permanent, conspicuous label which summarizes operating requirements contained in Sections 303, through 307, of this rule.
- 301.4 Use only solvent containers free of all liquid leaks, visible tears, or cracks. Pumps, pipelines, or flanges, shall not have any liquid leaks, visible tears, or cracks.

302 NON-VAPOR DEGREASERS; EQUIPMENT REQUIREMENTS:

- 302.1 A person shall only operate non-vapor degreasers, including remote reservoir degreasers (except as noted in Section 104.2), using one of the following control devices:
 - 302.1.1 Non-vapor degreasers with a freeboard ratio equal to or greater than 0.75 if using solvents which are:
 - 302.1.1.1 Agitated, or
 - 302.1.1.2 Heated above 122°F (50°C), or
 - 302.1.1.3 Volatile.
 - 302.1.2 Non-vapor degreasers using only low volatility solvents, which are not agitated, and which have a freeboard height of at least 6 inches.
 - 302.1.3 A water cover may be used as an acceptable alternative to Sections 302.1.1 and 302.1.2 only if the solvent is insoluble in water and has a specific gravity greater than 1.
- 302.2 Effective December 11, 2004, a person owning or operating a non-vapor degreaser shall use solvents with a VOC content of 50 grams per liter or less.

303 VAPOR DEGREASERS; EQUIPMENT REQUIREMENTS: In addition to the applicable requirements in Section 301, a person operating a vapor degreaser shall also comply with the following requirements.

- 303.1 Until December 11, 2004, a person shall operate only vapor degreasers, which have all of the following control devices:
 - 303.1.1 A freeboard ratio greater than or equal to 0.75.
 - 303.1.2 Cleaners with an evaporative surface area greater than or equal to 1 square meter, shall be equipped with a refrigerated freeboard chiller for which the chilled air blanket temperature (°F) at the coldest point on the vertical axis in the center of the air-vapor interface shall be no greater than 30% of the initial boiling point (°F) of the fresh solvent used or no greater than 40°F. If the chiller operates below the freezing temperature of water, it shall be equipped with an automatic defrost.
 - 303.1.3 A primary condenser.

303.2 Effective December 11, 2004, a person shall not operate a vapor degreaser unless the vapor degreaser is equipped with all of the following:

303.2.1 An automated parts handling system;

303.2.2 Circumferential primary condensing coils;

303.2.3 A circumferential trough;

303.2.4 A water separator;

303.2.5 A freeboard ratio of at least 1.0;

303.2.6 A superheated vapor zone; and

303.2.7 A refrigerated freeboard chiller that is operated such that the chilled air blanket temperature measured at the center of the air blanket is no greater than 40 percent of the boiling point of the solvent, measured in degrees Fahrenheit.

304 REMOTE RESERVOIR DEGREASER: Effective December 11, 2004, in addition to Section 302, a person owning or operating a remote reservoir degreaser shall comply with the following requirements:

304.1 Prevent solvent vapors from escaping from the solvent container by using such devices as a cover or a valve when the remote reservoir is not being used, cleaned, or repaired;

304.2 Direct solvent flow in to prevent liquid solvent from splashing outside of the remote reservoir degreaser;

304.3 Use only solvent containers free of all liquid leaks. Auxiliary equipment such as pumps, pipelines, or flanges, shall not have any liquid leaks, visible tears, or cracks.

305 VAPOR DEGREASERS; SAFETY SWITCHES: If a vapor degreaser is used, then the following equipment shall be utilized:

305.1 A device that shuts off the sump heater if the condenser coolant stops circulating or becomes warmer than specified.

305.2 For degreasers of the spray type, a device that prevents spray pump operation unless the solvent vapor level is at the designed operating level.

305.3 A manual reset that shuts off the sump heater if the solvent vapor level rises above the designed operating level.

306 CONVEYORIZED DEGREASERS: In addition to the requirements of Sections 302, and 303, a person shall not operate a conveyORIZED degreaser unless it is equipped with the following control devices:

306.1 Either a drying tunnel or other means such as a rotating basket, sufficient to prevent cleaned parts from carrying out solvent liquid or vapor.

306.2 Minimized opening: entrances and exits should silhouette workloads so that the average clearance between parts and the edge of the degreaser opening is either less than 4 inches (10 cm) or less than 10 percent of the width of the opening.

307 GENERAL OPERATING REQUIREMENTS: Any person who uses a degreaser must conform to the following operating requirements:

307.1 Operate and maintain the degreaser and emission control equipment in proper working order.

307.2 Do not allow any solvent to leak from any portion of the degreaser.

307.3 Do not store or dispose of any solvent from the degreaser, including waste solvent, in a manner that causes or allows any volatile organic compounds emissions.

307.4 If distillation recovery of waste solvent is performed, solvent residues shall not contain more than 10 percent solvent by volume after distillation.

307.5 Waste solvent and waste solvent residues, shall be disposed of by one of the following methods:

307.5.1 A commercial waste solvent reclamation service licensed by the State of California.

307.5.2 At a facility that is federally or state licensed to treat, store, or dispose of such waste.

307.5.3 Recycling in conformance with Section 25143.2 of the California Health and Safety Code.

307.6 Do not remove or open any device designed to cover the solvent unless processing work in the degreaser or performing maintenance on the degreaser.

307.7 Drain cleaned parts after cleaning until dripping ceases (non-vapor degreaser only).

307.8 If using a solvent flow, use only a continuous, fluid stream (not a fine, atomized, or shower type spray) at a pressure that does not cause liquid solvent to splash outside of the degreaser.

307.9 Perform solvent agitation, where necessary, by means other than air agitation.

307.10 Do not degrease porous or absorbent materials such as cloth, leather, wood, or rope.

307.11 For vapor degreasers:

307.11.1 Workloads shall not occupy more than half of the degreaser's evaporative surface area.

307.11.2 Solvent spray shall be kept at least 4 inches below the air-vapor interface.

- 307.11.3 When starting the degreaser, the cooling system shall be turned on before, or simultaneously with, the sump heater.
- 307.11.4 When shutting down the degreaser, the sump heater shall be turned off before, or simultaneously with, the cooling system.
- 307.11.5 The degreaser shall be covered whenever the cooling system is off.
- 307.12 Minimize solvent carry-out by the following measures, as applicable:
 - 307.12.1 Rack workload to facilitate drainage;
 - 307.12.2 Move workload in and out of the degreaser at less than 3.3 m/min (11 ft/min);
 - 307.12.3 Degrease the workload in the vapor zone until condensation ceases;
 - 307.12.4 Allow workload to dry within the degreaser until visually dry;
 - 307.12.5 For manual operation, tip out any pools of solvent remaining on the workload before removing it from the degreaser.
- 307.13 A cleaner shall not be located where drafts are directed across the cleaner.
- 307.14 For those cleaners equipped with water separators, no solvent shall be visually detectable in the water exiting the water separator.
- 307.15 Wipe cleaning materials containing solvent shall be kept in closed containers at all times, except during use.
- 307.16 All waste solvent shall be stored in properly identified and closed containers;
- 307.17 All associated pressure relief devices shall not allow liquid solvents to drain out; and
- 307.18 Spills during solvent transfer shall be wiped up immediately and the used wipe rags shall be stored in closed containers.
- 308 LIP EXHAUST SYSTEM:** A lip exhaust system shall not be added to any degreaser, unless it is vented to an emission control system, pursuant to Section 310. The lip exhaust shall be turned off when the degreaser is covered.
- 309 ALTERNATIVE AIRTIGHT/AIRLESS CLEANING SYSTEM REQUIREMENTS:** In lieu of complying with the applicable requirements in Sections 302, 303, and 306, a person may use an airtight/airless cleaning system that complies with the following requirements.
 - 309.1 The airtight/airless cleaning system shall be operated in accordance with the manufacturer's specifications and operated with a door or other pressure sealing apparatus that is in place during all cleaning and drying cycles.
 - 309.2 The airtight/airless cleaning system shall not have a vapor leak of more than 50 parts per million measured as methane at the outlet of the airtight/airless cleaning system as indicated by a portable analyzer pursuant to Section 502.8.

- 309.3. All waste solvent shall be stored in properly identified and closed containers.
- 309.4 All associated pressure relief devices shall not allow liquid solvents to drain out.
- 309.5 Spills during solvent transfer shall be wiped up immediately and the used wipe rags shall be stored in closed containers.

310 EMISSIONS CONTROL EQUIPMENT: As an alternative to complying with the applicable requirements of Sections 302, 303, and 306, a person may use an emissions control equipment, subject to the approval of the Air Pollution Control Officer, provided that the emissions control equipment satisfies the following requirements:

- 310.1 The emissions control equipment is approved by the Air Pollution Control Officer pursuant to Rule 501 – GENERAL PERMIT REQUIREMENTS, and
- 310.2 The emissions control equipment is designed and operated with an overall collection and control device efficiency (the collection efficiency multiplied by the control efficiency) of at least 85 percent on a mass basis, as determined pursuant to Sections 402, 502.2 and 502.3.
- 310.3 The emission collection system shall have a ventilation rate not greater than 20 cubic meters per minute per square meter over the total area of the degreaser's evaporative surface area, unless the rate must be changed to meet Federal and State OSHA requirements.

400 ADMINISTRATIVE REQUIREMENTS

401 CALCULATION FOR DETERMINING VOC CONTENT OF SOLVENTS INCLUDING WATER AND EXEMPT COMPOUNDS: For the VOC content as applied, the volume of solvent is defined as the volume of the original solvent, plus any material added to the original solvent (e.g., thinners or reducers). For the VOC content as supplied, the volume of solvent is defined as the volume of the original solvent. The weight of VOC per total volume of solvent shall be calculated by the following equation:

$$G_2 = \frac{W_v - W_w - W_{ec}}{V_m}$$

Where: G_2	=	Weight of VOC per total volume of solvent, in grams per liter
W_v	=	Weight of all volatile compounds, in grams
W_w	=	Weight of water, in grams
W_{ec}	=	Weight of exempt compounds, in grams
V_m	=	Volume of solvent, in liters

- 402 CALCULATION FOR DETERMINING PERCENT CONTROL EFFICIENCY AND VOC MASS EMISSION RATE:** The VOC mass emission rate shall be calculated both upstream and downstream of the emissions control equipment based on the VOC mass concentration and volumetric flowrate, pursuant to Sections 502.3, 502.4 and the following equations:

402.1 VOC Mass Emission Rate:

$$M = (Q) * (C) * (60 \frac{m}{hr}) \text{ (calculated upstream and downstream)}$$

Where: M = VOC mass emission rate
(upstream/downstream), in lb/hr.
Q = the volumetric flowrate at the inlet (upstream) or
exhaust stack outlet (downstream), in standard cubic
feet per minute as determined by Section 502.4.
C = the VOC mass concentration at the inlet (upstream) or
outlet (downstream), in pounds per standard cubic feet,
as determined pursuant to Section 502.3.

402.2 The percent control efficiency is calculated as follows:

$$\%CE = \left(\frac{M_u - M_d}{M_u} \right) * 100$$

Where: CE = control efficiency.
M_u = the upstream VOC mass emission rate, in lb/hr.
M_d = the downstream VOC mass emission rate, in lb/hr.

- 403 OPERATION AND MAINTENANCE PLAN:** Any person using an approved emission control equipment pursuant to Section 310 must submit an Operation and Maintenance plan for the emissions control equipment to the Air Pollution Control Officer for approval. The plan shall specify operation and maintenance procedures that demonstrate continuous operation and compliance of the emissions control equipment during periods of emissions-producing operations. The plan shall specify key system operating parameters such as temperatures, pressures, and flow rates, necessary to determine compliance with this rule and shall describe in detail procedures to maintain the approved control device. The plan shall specify which records must be kept to document these operations and maintenance procedures. The records shall comply with the requirements of Section 501. The plan shall be implemented upon approval by the Air Pollution Control Officer.

500 MONITORING AND RECORDS

- 501 RECORDKEEPING:** In addition to any existing permit conditions issued pursuant to Rule 501, General Permit Requirements, any person subject to this rule shall comply with the following requirements:

501.1 List of Materials: A list shall be maintained of all solvents currently used and/or stored at the site. The list shall include the following information:

501.1.1 Cleaning material type by name/code/manufacture.

501.1.2 The actual VOC content of cleaning material as applied including water and exempt compounds.

501.1.3 The actual mixing ratio for the cleaning material as applied.

501.2 Usage Records: Any person within the District using cleaning materials regulated by this rule shall update and maintain the records as required by this rule as follows:

501.2.1 Monthly:

501.2.1.1 Records of total applied volume in gallons for each cleaning material used.

501.2.1.2 Record of solvent cleaning activity associated with each solvent used.

501.2.1.3 Records of each time waste solvent or waste residue is removed from the facility for disposal.

501.3 Emissions Control Equipment: Any person using an emission control equipment pursuant to Section 310 shall maintain such records on a daily basis, of key system operating parameters for emission control equipment, including, but not limited to:

501.3.1 Hours of operation;

501.3.2 Routine and non-routine maintenance; and

501.3.3 The records required by Section 403 as part of the Operation and Maintenance Plan.

501.3.4 Records of test reports conducted pursuant to Section 502.

501.4 Duration of Records: Such records shall be maintained on-site for two years, (five years for sources subject to Rule 507, FEDERAL OPERATING PERMIT PROGRAM,) and made available for review by the Air Pollution Control Officer upon request.

502 TEST METHODS

502.1 Determination of Boiling Point: The initial boiling point of solvents shall be determined in accordance with ASTM D 1078-01.

502.2 Determination of Control Efficiency: Control efficiency of control equipment shall be determined in accordance with United States Environmental Protection Agency Method 18, 25, or 25A (whichever is applicable).

502.3 Determination of Collection Efficiency: Efficiency of the collection system shall be determined in accordance with the United States Environmental Protection Agency's *Guidelines for Determining Capture Efficiency, January 9, 1995*. Individual capture efficiency test runs subject to United States Environmental Protection Agency technical guidelines shall be determined by:

502.3.1 Applicable United States Environmental Protection Agency Methods 204, 204A, 204B, 204C, 204D, 204E, and/or 204F; or

502.3.2 Any other method approved by United States Environmental Protection Agency, the California Air Resources Board, and the Air Pollution Control Officer.

- 502.4 Determination of Volumetric Flowrate: Volumetric flowrate shall be determined in accordance with United States Environmental Protection Agency Methods 2, 2A, 2C, or 2D (whichever is applicable).
- 502.5 Determination of VOC Content: VOC content of solvents shall be determined in accordance with United States Environmental Protection Agency Method 24 and Sections 401, and 502.6, of this rule.
- 502.6 Determination of Compounds Exempt From VOC Definition: Compounds exempted from the VOC definition, as listed in Section 206 of this rule, shall be determined in accordance with ASTM D 4457-85 or California Air Resources Board Method 432. If any of the perfluorocarbons or volatile cyclic and linear methyl siloxanes are being claimed as exempt compounds, the person making the claim must state in advance which compounds are present, and the United States Environmental Protection Agency approved test method used to make the determination of these compounds.
- 502.7 Test Method Updates: Future U.S. EPA-approved revisions of any test methods referenced in Section 502 shall then become the applicable versions with respect to this rule.
- 502.8 Determination of VOC Leaks: Vapor VOC leaks shall be determined in accordance with United States Environmental Protection Agency Method 21.

RULE 217 CUTBACK AND EMULSIFIED ASPHALT PAVING MATERIALS

Adopted 06-19-79
(Amended 05-20-85, 09-25-90)

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1.0 GENERAL

1.1 APPLICABILITY

- 1.1.1 A person shall not discharge to the atmosphere volatile organic compounds (VOC's) caused by the use or manufacture of Cutback or Emulsified asphalts for paving, road construction or road maintenance, unless such manufacture or use complies with the provisions of this Rule.

1.2 EXEMPTIONS

- 1.2.1 The provisions of Section 3.0 shall not apply to:
- 1.2.2 The use of cutback asphalt or emulsified asphalt in the manufacturing of paving materials where such materials are for immediate shipment and eventual use outside of the County of Placer, State of California, and where such area is designated as attainment for the State and Federal Ozone Standard.
- 1.2.3 The use of medium cure cutback asphalt during the months of the year when the National Weather Service forecasts that atmospheric temperature for the 24-hour period following application will not exceed 10°C (50°F).

2.0 DEFINITIONS

- 2.1 ASPHALT - is defined as a dark brown to black cementitious material (solid, semisolid, or liquid in consistency) of which the main constituents are bitumens which occur naturally or as a residue of petroleum refining.

- 2.2 CUTBACK ASPHALT - is defined as paving grade asphalts liquefied with petroleum distillate and conforming to specifications of the American Society for Testing & Materials (ASTM) as follows:

Rapid Cure Type:	ASTM D2028
Medium Cure Type:	ASTM D2027
Slow Cure Type:	ASTM D2026

- 2.3 EMULSIFIED ASPHALT - is defined as any asphalt liquefied with water containing an emulsifier.

- 2.4 PAVING MATERIAL - is defined as a mixture consisting mainly of an asphalt and aggregate.

- 2.5 PAVING AND MAINTENANCE OPERATIONS - is defined as all activities involved in the new construction and maintenance of roadways and parking areas.

3.0 STANDARDS

3.1 CUTBACK ASPHALT

- 3.1.1 A person shall not manufacture for sale nor use for paving, road construction or road maintenance any:
- 3.1.2 Rapid cure cutback asphalt;
- 3.1.3 Slow cure cutback asphalt containing organic compounds which evaporate at 260° C (500° F) or lower as determined by current ASTM Method D402;

3.1.4 Medium cure cutback asphalt except as provided in Section 1.2.

3.2 EMULSIFIED ASPHALT

3.2.1 A person shall not manufacture for paving, road construction or road maintenance any emulsified asphalt containing organic compounds which evaporate at 260° C (500° F) or lower as determined by current ASTM Method D244, in excess of three percent by volume.

4.0 ADMINISTRATIVE

4.1 TEST METHODS

4.1.2 Analysis of **Cutback Asphalt** samples for VOC content shall be in accordance with current ASTM Method D402.

4.1.3 Analysis of **Emulsified Asphalt** samples for VOC content shall be in accordance with current ASTM Method D244, in excess of three percent by volume.

4.2 RECORDKEEPING

4.2.1 Any person who manufactures or uses cutback asphalts and emulsified asphalts which contain solvents shall comply with the following requirements:

4.2.2 The manufacturer shall maintain records showing the types and amounts of cutback asphalts and emulsified asphalts which contain solvents produced and the destination of these products.

4.2.3 The users shall maintain records showing the types, amounts received, and amounts used of cutback asphalts and emulsified asphalts which contain solvents.

4.2.4 Such records shall be maintained daily and retained and available for inspection by the APCO for the previous 24 month period.

4.2.5 In addition to the recordkeeping requirements as specified herein, all provisions of Regulation IV, Rule 410, when applicable, must still be adhered to.

RULE 218 ARCHITECTURAL COATINGS

Adopted 6-19-79
(Amended 2-01-83, 5-20-85, 4-01-86, 2-09-95, 8-14-97, 12-13-01)

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- 208 BITUMINOUS ROOF COATING
- 209 BITUMINOUS ROOF PRIMER
- 210 BOND BREAKERS
- 211 CLEAR BRUSHING LACQUERS
- 212 CLEAR WOOD COATINGS
- 213 COATING
- 214 COLORANT
- 215 CONCRETE CURING COMPOUND
- 216 DRY FOG COATING
- 217 EXEMPT COMPOUND
- 218 FAUX FINISHING COATING
- 219 FIRE-RESISTIVE COATING
- 220 FIRE-RETARDANT COATING
- 221 FLAT COATING
- 222 FLOOR COATING
- 223 FLOW COATING
- 224 FORM-RELEASE COMPOUND
- 225 GRAPHIC ARTS COATING OR SIGN PAINT
- 226 HIGH-TEMPERATURE COATING
- 227 INDUSTRIAL MAINTENANCE COATING
- 228 LACQUER
- 229 LOW-SOLIDS COATING
- 230 MAGNESITE CEMENT COATING
- 231 MASTIC TEXTURE COATING
- 232 METALLIC PIGMENTED COATING
- 233 MULTI-COLOR COATING
- 234 NONFLAT COATING
- 235 NONFLAT - HIGH GLOSS COATING
- 236 NONINDUSTRIAL USE
- 237 POST-CONSUMER COATING
- 238 PRE-TREATMENT WASH PRIMER
- 239 PRIMER
- 240 QUICK-DRY ENAMEL
- 241 QUICK-DRY PRIMER, SEALER AND UNDERCOATER
- 242 RECYCLED COATING

- 243 RESIDENCIAL
- 244 ROOF COATING
- 245 RUST PREVENTIVE COATING
- 246 SANDING SEALER
- 247 SEALER
- 248 SECONDARY COATING (REWORK)
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- 250 SHOP APPLICATION
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- 252 SPECIALTY PRIMER, SEALER AND UNDERCOATER
- 253 STAIN
- 254 SWIMMING POOL COATING
- 255 SWIMMING POOL REPAIR AND MAINTENANCE COATING
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- 257 TINT BASE
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APPENDIX A - AVERAGING PROVISION

100 GENERAL

- 101 PURPOSE:** To limit the quantity of volatile organic compounds in architectural coatings supplied, sold, offered for sale, applied, solicited for application, or manufactured for use within the District.
- 102 APPLICABILITY:** Except as provided in Section 104, this rule is applicable to any person who supplies, sells, offers for sale, or manufacturers any architectural coating for use for all of Placer County, as well as any person who applies or solicits the application of any architectural coating within Placer County.
- 103 SEVERABILITY:** If a court of competent jurisdiction issues an order that any provision of this rule is invalid, it is the intent of the Board of Directors of the District that other provisions of this rule remain in full force and affect, to the extent allowed by law.
- 104 EXEMPTIONS:** This rule does not apply to:
- 104.1 Any architectural coating that is sold or manufactured for use outside of the District or for shipment to other manufacturers for reformulation or repackaging;
 - 104.2 Any aerosol coating product; or
 - 104.3 Any architectural coating that is sold in a container with a volume of one liter (1.057 quart) or less.
 - 104.4 Shop Coating Operations: Coating operations conducted in a business shop environment and which are subject to either Rule 236, Wood Products Coating Operations or Rule 238, Factory Coating of Flat Wood Paneling, are exempt from all provisions of this rule.

200 DEFINITIONS

- 201 ADHESIVE:** Any chemical substance that is applied for the purpose of bonding two surfaces together other than by mechanical means.
- 202 AEROSOL COATING PRODUCT:** A pressurized coating product containing pigments or resins that dispense product ingredients by means of a propellant, and is packaged in a disposable can for hand-held application, or for use in specialized equipment for ground traffic/marketing applications.
- 203 ANTENNA COATING:** A coating labeled and formulated exclusively for application to equipment and associated structural appurtenances that are used to receive or transmit electromagnetic signals.
- 204 ANTIFOULING COATING:** A coating labeled and formulated for application to submerged stationary structures and their appurtenances to prevent or reduce the attachment of marine or freshwater biological organisms. To qualify as an antifouling coating, the coating must be registered with both the U.S. Environmental Protection Agency under the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. Section 136, *et seq.*) and with the California Department of Pesticide Regulation.
- 205 APPURTENANCES:** Any accessory to a stationary structure coated at the site of installation, whether installed or detached, including but not limited to: bathroom and kitchen fixtures; cabinets; concrete forms; doors; elevators; fences; hand railings; heating equipment, air conditioning equipment, and other fixed mechanical equipment, or stationary tools; lampposts; partitions; pipes and piping systems; rain-gutters and down-spouts; stairways, fixed ladders, catwalks, and fire escapes; and window screens.

- 206 ARCHITECTURAL COATING:** A coating to be applied to stationary structures and their appurtenances at the site of installation, to portable buildings at the site of installation, to pavements, or to curbs. Coatings applied in shop applications or to non-stationary structures such as airplanes, ships, boats, railcars, and automobiles, and adhesives are not considered architectural coatings for the purpose of this rule.
- 207 BITUMENS:** Black or brown materials including, but not limited to, asphalt, tar, pitch, and asphaltite that are soluble in carbon disulfide, consist mainly of hydrocarbons, and are obtained from natural deposits or as residues from the distillation of crude petroleum or coal.
- 208 BITUMINOUS ROOF COATING:** A coating which incorporates bitumens that is labeled and formulated exclusively for roofing.
- 209 BITUMINOUS ROOF PRIMER:** A primer which incorporates bitumens that is labeled and formulated exclusively for roofing.
- 210 BOND BREAKERS:** A coating labeled and formulated for application between layers of concrete to prevent a freshly poured top layer of concrete from bonding to the layer over which it is poured.
- 211 CLEAR BRUSHING LACQUERS:** Clear wood finishes, excluding clear lacquer sanding sealers, formulated with nitrocellulose or synthetic resins to dry by solvent evaporation without chemical reaction and to provide a solid, protective film, which are intended exclusively for application by brush, and which are labeled as specified in Section 401.5.
- 212 CLEAR WOOD COATINGS:** Clear and semi-transparent coatings, including lacquers and varnishes, applied to wood substrates to provide a transparent or translucent solid film.
- 213 COATING:** A material applied onto or impregnated into a substrate for protective, decorative, or functional purposes. Such materials include, but are not limited to, paints, varnishes, sealers, and stains.
- 214 COLORANT:** A concentrated pigment dispersion in water, solvent, and/or binder that is added to an architectural coating after packaging in sale units to produce the desired color.
- 215 CONCRETE CURING COMPOUND:** A coating labeled and formulated for application to freshly poured concrete to retard the evaporation of water.
- 216 DRY FOG COATING:** A coating labeled and formulated only for spray application such that overspray droplets dry before subsequent contact with incidental surfaces in the vicinity of the surface coating activity.
- 217 EXEMPT COMPOUND:** For the purposes of this rule, "exempt compound" has the same meaning as in Rule 102, Definitions, except that following listed compounds are additional exempt compounds. Exempt compounds content of a coating shall be determined by South Coast Air Quality Management District Method 303-91 (Revised August 1996), incorporated by reference in Section 502.4.10.
- | | |
|--------|--|
| 217.1 | perchloroethylene (tetrachloroethylene) |
| 217.2 | 3,3-dichloro-1,1,1,2,2-pentafluoropropane (HCFC-225ca) |
| 217.3 | 1,3-dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb) |
| 217.4 | 1,1,1,2,3,4,4,5,5,5-decafluoropentane (HFC 43-10mee) |
| 217.5 | difluoromethane (HFC-32) |
| 217.6 | ethylfluoride (HFC-161) |
| 217.7 | 1,1,1,3,3,3-hexafluoropropane (HFC-236fa) |
| 217.8 | 1,1,2,2,3-pentafluoropropane (HFC-245ca) |
| 217.9 | 1,1,2,3,3-pentafluoropropane (HFC-245ea) |
| 217.10 | 1,1,1,2,3-pentafluoropropane (HFC-245eb) |
| 217.11 | 1,1,1,3,3-pentafluoropropane (HFC-245fa) |

217.12	1,1,1,2,3,3-hexafluoropropane (HFC-236ea)
217.13	1,1,1,3,3-pentafluorobutane (HFC-365mfc)
217.14	chlorofluoromethane (HCFC-31)
217.15	1 chloro-1-fluoroethane (HCFC-151a)
217.16	1,2-dichloro-1,1,2-trifluoroethane (HCFC-123a)
217.17	1,1,1,2,2,3,3,4,4-nonafluoro-4-methoxy-butane (C ₄ F ₉ OCH ₃)
217.18	2-(difluoromethoxymethyl)-1,1,1,2,3,3,3-heptafluoropropane ((CF ₃) ₂ CFCF ₂ OCH ₃)
217.19	1-ethoxy-1,1,2,2,3,3,4,4,4-nonafluorobutane (C ₄ F ₉ OC ₂ H ₅)
217.20	2-(ethoxydifluoromethyl)-1,1,1,2,3,3,3-heptafluoropropane ((CF ₃) ₂ CFCF ₂ OC ₂ H ₅)
217.21	methyl acetate_

- 218 FAUX FINISHING COATING:** A coating labeled and formulated as a stain or glaze to create artistic effects including, but not limited to, dirt, old age, smoke damage, and simulated marble and wood grain.
- 219 FIRE-RESISTIVE COATING:** An opaque coating labeled and formulated to protect the structural integrity by increasing the fire endurance of interior or exterior steel and other structural materials, that has been fire tested and rated by a testing agency approved by building code officials for use in bringing assemblies of structural materials into compliance with federal, state, and local building code requirements. The fire-resistive coating and the testing agency must be approved by building code officials. The fire-resistive coating shall be tested in accordance with ASTM Designation E 119-98, incorporated by reference in Section 502.4.2.
- 220 FIRE-RETARDANT COATING:** A coating labeled and formulated to retard ignition and flame spread, that has been fire tested and rated by a testing agency approved by building code officials for use in bringing building and construction materials into compliance with federal, state, and local building code requirements. The fire-retardant coating and the testing agency must be approved by building code officials. The fire-retardant coating shall be tested in accordance with ASTM Designation E 84-99, incorporated by reference in Section 502.4.1.
- 221 FLAT COATING:** A coating that is not defined under any other definition in this rule and that registers gloss less than 15 on an 85-degree meter or less than 5 on a 60-degree meter according to ASTM Designation D 523-89 (1999), incorporated by reference in Section 502.4.3.
- 222 FLOOR COATING:** An opaque coating that is labeled and formulated for application to flooring, including, but not limited to, decks, porches, steps, and other horizontal surfaces which may be subject to foot traffic.
- 223 FLOW COATING:** A coating labeled and formulated exclusively for use by electric power companies or their subcontractors to maintain the protective coating systems present on utility transformer units.
- 224 FORM-RELEASE COMPOUND:** A coating labeled and formulated for application to a concrete form to prevent the freshly poured concrete from bonding to the form. The form may consist of wood, metal, or some other material other than concrete.
- 225 GRAPHIC ARTS COATING OR SIGN PAINT:** A coating labeled and formulated for hand-application by artists using brush or roller techniques to indoor and outdoor signs (excluding structural components) and murals including lettering enamels, poster colors, copy blockers, and bulletin enamels.
- 226 HIGH-TEMPERATURE COATING:** A high performance coating labeled and formulated for application to substrates exposed continuously or intermittently to temperatures above 204°C (400°F).
- 227 INDUSTRIAL MAINTENANCE COATING:** A high performance architectural coating, including primers, sealers, undercoaters, intermediate coats, and topcoats, formulated for application to

substrates exposed to one or more of the following extreme environmental conditions listed in Sections 227.1 through 227.5, and labeled as specified in Section 401.4:

- 227.1 Immersion in water, wastewater, or chemical solutions (aqueous and non-aqueous solutions), or chronic exposure of interior surfaces to moisture condensation;
 - 227.2 Acute or chronic exposure to corrosive, caustic, or acidic agents, or to chemicals, chemical fumes, or chemical mixtures or solutions;
 - 227.3 Repeated exposure to temperatures above 121°C (250°F);
 - 227.4 Repeated (frequent) heavy abrasion, including mechanical wear and repeated (frequent) scrubbing with industrial solvents, cleansers, or scouring agents; or
 - 227.5 Exterior exposure of metal structures and structural components.
-
- 228 **LACQUER:** A clear or opaque wood coating, including clear lacquer sanding sealers, formulated with cellulosic or synthetic resins to dry by evaporation without chemical reaction and to provide a solid, protective film.
 - 229 **LOW-SOLIDS COATING:** A coating containing 0.12 kilogram or less of solids per liter (1 pound or less of solids per gallon) of coating material.
 - 230 **MAGNESITE CEMENT COATING:** A coating labeled and formulated for application to magnesite cement decking to protect the magnesite cement substrate from erosion by water.
 - 231 **MASTIC TEXTURE COATING:** A coatings labeled and formulated to cover holes and minor cracks and to conceal surface irregularities, and is applied in a single coat of at least 10 mils (0.010 inch) dry film thickness.
 - 232 **METALLIC PIGMENTED COATING:** A coating containing at least 48 grams of elemental metallic pigment per liter of coating as applied (0.4 pounds per gallon), when tested in accordance with South Coast Air Quality Management District Method 318-95, incorporated by reference in Section 502.4.4.
 - 233 **MULTI-COLOR COATING:** A coating that is packaged in a single container and that exhibits more than one color when applied in a single coat.
 - 234 **NONFLAT COATING:** A coating that is not defined under any other definition in this rule and that registers a gloss of 15 or greater on an 85-degree meter and 5 or greater on a 60-degree meter according to ASTM Designation D 523-89 (1999), incorporated by reference in Section 502.4.3.
 - 235 **NONFAT - HIGH GLOSS COATING:** A nonflat coating that registers a gloss of 70 or above on a 60 degree meter according to ASTM Designation D 523-89 (1999), incorporated by reference in Section 502.4.3.
 - 236 **NONINDUSTRIAL USE:** Nonindustrial use means any use of architectural coatings except in the construction or maintenance of any of the following: facilities used in the manufacturing of goods and commodities; transportation infrastructure, including highways, bridges, airports and railroads; facilities used in mining activities, including petroleum extraction; and utilities infrastructure, including power generation and distribution, and water treatment and distribution systems.
 - 237 **POST-CONSUMER COATING:** A finished coating that would have been disposed of in a landfill, having completed its usefulness to a consumer, and does not include manufacturing wastes.

- 238 PRE-TREATMENT WASH PRIMER:** A primer that contains a minimum of 0.5 percent by acid, by weight, when tested in accordance with ASTM Designation D 1613-96, incorporated by reference in Section 502.4.5, that is labeled and formulated for application directly to bare metal surfaces to provide corrosion resistance and to promote adhesion of subsequent topcoats.
- 239 PRIMER:** A coating labeled and formulated for application to a substrate to provide a firm bond between the substrate and subsequent coats.
- 240 QUICK-DRY ENAMEL:** A nonflat coating that is labeled as specified in Section 401.8 and that is formulated to have the following characteristics:
- 240.1 Is capable of being applied directly from the container under normal conditions with ambient temperatures between 16 and 27°C (60 and 80°F);
 - 240.2 When tested in accordance with ASTM Designation D-1640-95, incorporated by reference in Section 502.4.6., sets to touch in 2 hours or less, is tack free in 4 hours or less, and dries hard in 8 hours or less by the mechanical test method; and
 - 240.3 Has a dried film gloss of 70 or above on a 60 degree meter.
- 241 QUICK DRY PRIMER, SEALER AND UNDERCOATER:** A primer, sealer or undercoater that is dry to the touch in 30 minutes and can be recoated in 2 hours when tested in accordance with ASTM Designation 1640-95, incorporated by reference in Section 502.4.6.
- 242 RECYCLED COATING:** An architectural coating formulated such that not less than 50 percent of the total weight consists of secondary and post-consumer coating, with not less than 10 percent of the total weight consisting of post-consumer coating.
- 243 RESIDENTIAL:** Areas where people reside or lodge, including, but not limited to, single and multiple family dwellings, condominiums, mobile homes, apartment complexes, motels, and hotels.
- 244 ROOF COATING:** A non-bituminous coating labeled and formulated exclusively for application to roofs for the primary purpose of preventing penetration of the substrate by water or reflecting heat and ultraviolet radiation. Metallic pigmented roof coatings which qualify as Metallic Pigmented Coating shall not be considered to be in this category, but shall be considered to be in the Metallic Pigmented Coating category.
- 245 RUST PREVENTIVE COATING:** A coating formulated for nonindustrial use to prevent the corrosion of metal surfaces and labeled as specified in Section 401.6.
- 246 SANDING SEALER:** A clear or semi-transparent wood coating labeled and formulated for application to bare wood to seal the wood and to provide a coat that can be abraded to create a smooth surface for subsequent applications of coatings. A sanding sealer that also meets the definition of a lacquer is not included in this category, but is included in the lacquer category.
- 247 SEALER:** A coating labeled and formulated for application to a substrate for one or more of the following purposes: to prevent subsequent coatings from being absorbed by the substrate, or to prevent harm to subsequent coatings by materials in the substrate.
- 248 SECONDARY COATING (REWORK):** A fragment of a finished coating or a finished coating from a manufacturing process that has converted resources into a commodity of real economic value, but does not include excess virgin resources of the manufacturing process.
- 249 SHELLAC:** A clear or opaque coating formulated solely with the resinous secretions of the lac beetle (*Laccifer lacca*), thinned with alcohol, and formulated to dry by evaporation without a chemical reaction.

- 250 SHOP APPLICATION:** Application of a coating to a product or a component of a product in or on the premises of a factory or a shop as part of a manufacturing, production, or repairing process (e.g., original equipment manufacturing coatings).
- 251 SOLICIT:** To require for use or to specify, by written or oral contract.
- 252 SPECIALTY PRIMER, SEALER AND UNDERCOATER:** A coating labeled as specified in Section 401.7 and that is formulated for application to a substrate to seal fire, smoke or water damage; to condition excessively chalky surfaces, or to block stains. An excessively chalky surface is one that is defined as having a chalk rating of four or less as determined by ASTM Designation D 4214-98, incorporated by reference in Section 502.4.7.
- 253 STAIN:** A clear, semitransparent, or opaque coating labeled and formulated to change the color of a surface but not conceal the grain pattern or texture.
- 254 SWIMMING POOL COATING:** A coating labeled and formulated to coat the interior of swimming pools and to resist swimming pool chemicals.
- 255 SWIMMING POOL REPAIR AND MAINTENANCE COATING:** A rubber based coating labeled and formulated to be used over existing rubber based coatings for the repair and maintenance of swimming pools.
- 256 TEMPERATURE-INDICATOR SAFETY COATING:** A coating labeled and formulated as a color-changing indicator coating for the purpose of monitoring the temperature and safety of the substrate, underlying piping, or underlying equipment, and for application to substrates exposed continuously or intermittently to temperatures above 204°C (400°F).
- 257 TINT BASE:** An architectural coating to which colorant is added after packaging in sale units to produce a desired color.
- 258 TRAFFIC MARKING COATING:** A coating labeled and formulated for marking and striping streets, highways, or other traffic surfaces including, but not limited to, curbs, berms, driveways, parking lots, sidewalks, and airport runways.
- 259 UNDERCOATER:** A coating labeled and formulated to provide a smooth surface for subsequent coats.
- 260 VARNISH:** A clear or semi-transparent wood coating, excluding lacquers and shellacs, formulated to dry by chemical reaction on exposure to air. Varnishes may contain small amounts of pigment to color a surface, or to control the final sheen or gloss of the finish.
- 261 VOLATILE ORGANIC COMPOUND (VOC):** For the purposes of this rule, “volatile organic compound” has the same meaning as in Rule 102, Definitions.
- 262 VOC CONTENT:** The weight of VOC per volume of coating, calculated according to the procedures specified in Section 402.
- 263 WATERPROOFING SEALER:** A coating labeled and formulated for application to a porous substrate for the primary purpose of preventing the penetration of water.
- 264 WATERPROOFING CONCRETE/MASONRY SEALER:** A clear or pigmented film-forming coating that is labeled and formulated for sealing concrete and masonry to provide resistance against water, alkalis, acids, ultraviolet light, and staining.
- 265 WOOD PRESERVATIVE:** A coating labeled and formulated to protect exposed wood from decay or insect attack, that is registered with both the U.S. Environmental Protection Agency under the Federal Insecticide, Fungicide, and Rodenticide Act (7 United States Code (U.S.C.) Section 136, *et seq.*) and with the California Department of Pesticide Regulation).

300 STANDARDS

December 13, 2001

301 VOC CONTENT LIMITS: Except as provided in Sections 302, 303, 308, and 309, no person shall: (i) manufacture, blend, or repackage for sale within the District; (ii) supply, sell, or offer for sale within the District; or (iii) solicit for application or apply within the District, any architectural coating with a VOC content in excess of the corresponding limit specified in the following table. Limits are expressed in grams of VOC per liter of coating thinned to the manufacturer's maximum recommendation, excluding the volume of any water, exempt compounds, or colorant added to the tint bases. "Manufacturer's maximum recommendation" means the maximum recommendation for thinning that is indicated on the label or lid of the coating container.

COATING CATEGORY	EFFECTIVE 1997	EFFECTIVE 6/15/2002	EFFECTIVE 1/1/2003	EFFECTIVE 1/1/2004
Flat Coatings	250			
Nonflat Coatings		250		
Nonflat – High Gloss		250		
SPECIALTY COATINGS:				
Antenna		530		
Antifouling		400		
Bituminous Roof		300		
Bituminous Roof Primers		350		
Bond Breakers	350			
CLEAR WOOD COATINGS:				
Clear Brushing Lacquer		680		
Laquers (including lacquer sanding sealers)	680		550	
Sanding Sealers (other than lacquer sanding sealers)	350			
Varnishes	350			
Concrete Curing Compounds	350			
Dry Fog	400			
Faux Finishing		350		
Fire Resistive		350		
FIRE RETARDANT:				
Clear	650			
Opaque	350			
Floor		250		
Flow		420		
Form – Release Compounds	250			
Graphic Arts (Sign Paints)	500			
High Temperature	420			
Industrial Maintenance	420			250
Low Solids		120		
Magnesite Cement	450			
Mastic Texture	300			
Metallic Pigmented	500			
Multi-Color Coating	420		250	
Pre-Treatment Wash Primers	675			
Primers, Sealers, and Undercoaters		350	200	
Quick-Dry Enamels	400		250	
Quick-Dry Primers, Sealers, and Undercoaters	350		200	
Recycled		250		
Roof	300	250		
Rust Preventative		400		
SHELLACS:				
Clear	730			
Opaque	550			
Specialty Primers, Sealers, and Undercoaters		350		
Stains	350		250	
Swimming Pool Coatings	340			

December 13, 2001

COATING CATEGORY	EFFECTIVE 1997	EFFECTIVE 6/15/2002	EFFECTIVE 1/1/2003	EFFECTIVE 1/1/2004
Swimming Pool Repair and Maintenance		340		
Temperature-Indicator Safety		550		
Traffic Marking	250	150		
Waterproofing Sealers	400		250	
Waterproofing Concrete/Masonry Sealers		400		
Wood Preservatives	350			

- 1 The specified limits remain in effect unless revised limits are listed in subsequent columns in the table.
- 2 Units are grams of VOC per liter (pounds of VOC per gallon) or coating, including water and exempt compounds. Conversion factor: one pound VOC per gallon (U.S.) = 119.95 grams VOC per liter.

302 MOST RESTRICTIVE VOC LIMITS: If anywhere on the container of any architectural coating or any label or sticker affixed to the container, or in any sales, advertising, or technical literature supplied by a manufacturer or anyone acting on their behalf, any representation is made that indicates that the coating meets the definition of or is recommended for use for more than one of the coating categories listed in the table in Section 301, then the most restrictive VOC content limit shall apply. This provision does not apply to the coating categories specified in Section 302.1 through 302.15.

- 302.1 Lacquer coatings (including lacquer sanding sealers).
- 302.2 Metallic pigmented coatings.
- 302.3 Shellacs.
- 302.4 Fire-retardant coatings.
- 302.5 Pretreatment wash primers.
- 302.6 Industrial maintenance coatings.
- 302.7 Low-solids coatings.
- 302.8 Wood preservatives.
- 302.9 High temperature coatings.
- 302.10 Temperature-indicator safety coatings.
- 302.11 Antenna coatings.
- 302.12 Antifouling coatings.
- 302.13 Flow coatings.
- 302.14 Bituminous roof primers.
- 302.15 Specialty primers, sealers, and undercoaters.

303 SELL-THROUGH OF COATINGS:

- 303.1 Coatings manufactured prior to the June 15, 2002, January 1, 2003 or January 1, 2004 effective date specified for that coating in the table in Section 301 may be sold, supplied, or offered for sale for up to three years after the specified effective date. In addition, a coating manufactured before the effective date specified for that coating in the table in Section 301 may be applied at any time, both before and after the specified effective date, so long as the coating complied with the standards in effect at the time the coating was manufactured. This Section 303 does not apply to any coating that complies with the future effective June 15, 2002, January 1, 2003 or January 1, 2004 limits or that does not display the date or date-code required by Section 401.1.
- 303.2 A coating included in an approved Averaging Program that does not comply with the specified limit in the table in Section 301 may be sold, supplied, or offered for sale for up to three years after the end of the compliance period specified in the approved Averaging Program. In addition, such a coating may be applied at any time, both during and after the compliance period. This Section 303.2 does not apply to any coating that does not display on the container either the statement: "This product is subject to architectural coatings averaging provisions in California" or a substitute symbol specified by the Executive Officer of the California Air Resources Board. This Section 303.2 shall remain in effect until January 1, 2008.

- 304 PAINTING PRACTICES:** All architectural coating containers used to apply the contents therein to a surface directly from the container by pouring, siphoning, brushing, rolling, padding, ragging or other means, shall be closed when not in use. These architectural coating containers include, but are not limited to, drums, buckets, cans, pails, trays or other application containers. Containers of any VOC-containing materials used for thinning and cleanup shall also be closed when not in use.
- 305 THINNING:** No person who applies or solicits the application of any architectural coating shall apply a coating that is thinned to exceed the applicable VOC limit specified in the table in Section 301.
- 306 RUST PREVENTIVE COATINGS:** After January 1, 2004, a person shall only apply or solicit the application of a rust preventive coating for non-industrial uses, unless the rust preventive coating complies with the industrial maintenance coating VOC limit specified in the table in Section 301.
- 307 COATINGS NOT LISTED IN SECTION 301:** For any coating that does not meet any of the definitions for the specialty coatings categories listed in the table in Section 301, the VOC content limit shall be determined by classifying the coating as a flat coating or a nonflat coating, based on its gloss, as defined in Section 221, 234 and 235 and the corresponding flat or nonflat VOC limit shall apply.
- 308 LACQUERS:** Notwithstanding the provisions of Sections 301 and 305, a person or facility may add up to 10 percent by volume of VOC to a lacquer to avoid blushing of the finish during days with relative humidity greater than 70 percent and temperature below 65 degrees Fahrenheit, at the time of application, provided that the coating contains acetone and no more than 550 grams of VOC per liter of coating, less water and exempt compounds, prior to the addition of VOC.
- 309 AVERAGING COMPLIANCE OPTION:** On or after January 1, 2003, in lieu of compliance with the specified limits in the table in Section 301 for floor coatings; industrial maintenance coatings; primers, sealers, and undercoaters; quick-dry primers, sealers, and undercoaters; quick-dry enamels; roof coatings; bituminous roof coatings; rust preventive coatings; stains; waterproofing sealers, as well as flats and nonflats (excluding recycled coatings), manufacturers may average designated coatings such that their actual cumulative emissions from the averaged coatings are less than or equal to the cumulative emissions that would have been allowed under those limits over a compliance period not to exceed one year. Such manufacturers must also comply with the averaging provisions contained in Appendix A, as well as maintain and make available for inspection records for at least three years after the end of the compliance period. This Section 309 and Appendix A shall cease to be effective on January 1, 2005, after which averaging will no longer be allowed.

400 ADMINISTRATIVE REQUIREMENTS

- 401 CONTAINER LABELING REQUIREMENTS:** Each manufacturer of any architectural coating subject to this rule shall display the information listed in Sections 401.1 through 401.9 on the coating container (or label) in which the coating is sold or distributed.
- 401.1 Date Code: The date the coating was manufactured, or a date code representing the date, shall be indicated on the label, lid, or bottom of the container. If the manufacturer uses a date code for any coating, the manufacturer shall file an explanation of each code with the Executive Officer of the California Air Resources Board.
- 401.2 Thinning Recommendations: A statement of the manufacturer's recommendation regarding thinning of the coating shall be indicated on the label or lid of the container. This requirement does not apply to the thinning of architectural coatings with water. If thinning of the coating prior to use is not necessary, the recommendation must specify that the coating is to be applied without thinning.

- 401.3 VOC Content: Each container of any coating subject to this rule shall display either the maximum or the actual VOC content of the coating, as supplied, including the maximum thinning as recommended by the manufacturer. VOC content shall be displayed as grams of VOC per liter of coating. VOC content displayed shall be calculated using product formulation data, or shall be determined using the test method in Section 502. The equations in Section 402 shall be used to calculate VOC content.
- 401.4 Industrial Maintenance Coatings: In addition to the information specified in Sections 401.1, 401.2 and 401.3, each manufacturer of any industrial maintenance coating subject to this rule shall display on the label or lid of the container in which the coating is sold or distributed one or more of the descriptions listed in Sections 401.4.1 through 401.4.3.
- 401.4.1 "For industrial use only."
- 401.4.2 "For professional use only."
- 401.4.3 "Not for residential use" or "Not intended for residential use."
- 401.5 Clear Brushing Lacquers: Effective January 1, 2003, the labels of all clear brushing lacquers shall prominently display the statements "For brush application only," and "This product must not be thinned or sprayed."
- 401.6 Rust Preventive Coatings: Effective January 1, 2003, the labels of all rust preventive coatings shall prominently display the statement "For Metal Substrates Only."
- 401.7 Specialty Primers, Sealers, and Undercoaters: Effective January 1, 2003, the labels of all specialty primers, sealers, and undercoaters shall prominently display one or more of the descriptions listed in Sections 401.7.1 through 401.7.5.
- 401.7.1 For blocking stains.
- 401.7.2 For fire-damaged substrates.
- 401.7.3 For smoke-damaged substrates.
- 401.7.4 For water-damaged substrates.
- 401.7.5 For excessively chalky substrates.
- 401.8 Quick-dry Enamels: Effective January 1, 2003, the labels of all quick dry enamels shall prominently display the words "Quick Dry" and the dry hard time.
- 401.9 Non-flat - High Gloss Coatings: Effective January 1, 2003, the labels of all non-flat - high gloss coatings shall prominently display the words "High Gloss."

402 CALCULATION OF VOC CONTENT: For the purpose of determining compliance with the VOC content limits in the table in Section 301, the VOC content of a coating shall be determined by using the procedures described in Sections 402.1 or 402.2, as appropriate. The VOC content of a tint base shall be determined without colorant that is added after the tint base is manufactured.

- 402.1 With the exception of low solids coatings, determine the VOC content in grams of VOC per liter of coating thinned to the manufacturer's maximum recommendation, excluding the volume of any water and exempt compounds. Determine the VOC content using the following equation:

$$\text{VOC Content} = (W_s - W_w - W_{ec}) / (V_m - V_w - V_{ec})$$

Where: VOC content = grams of VOC per liter of coating

Ws	=	weight of all volatiles, in grams
Ww	=	weight of water, in grams
Wec	=	weight of exempt compounds, in grams
Vm	=	volume of coating, in liters
Vw	=	volume of water, in liters
Vec	=	volume of exempt compounds, in liters

- 402.2 For low solids coatings, determine the VOC content in units of grams of VOC per liter of coating thinned to the manufacturer's maximum recommendation, including the volume of any water and exempt compounds. Determine the VOC content using the following equation:

$$\text{VOC Contents} = (Ws - Ww - Wec) / (Vm)$$

Where: VOC content = the VOC content of a low solids coating in grams of VOC per liter of coating

Ws	=	weight of all volatiles, in grams
Ww	=	weight of water, in grams
Wec	=	weight of exempt compounds, in grams
Vm	=	volume of coating, in liters

500 MONITORING AND RECORDS

501 REPORTING REQUIREMENTS:

- 501.1 Clear Brushing Lacquers: Each manufacturer of clear brushing lacquers shall, on or before April 1 of each calendar year beginning in the year 2004, submit an annual report to the Executive Officer of the California Air Resources Board. The report shall specify the number of gallons of clear brushing lacquers sold in California during the preceding calendar year, and shall describe the method used by the manufacturer to calculate State sales.
- 501.2 Rust Preventive Coatings: Each manufacturer of rust preventive coatings shall, on or before April 1 of each calendar year beginning in the year 2004, submit an annual report to the Executive Officer of the California Air Resources Board. The report shall specify the number of gallons of rust preventive coatings sold in California during the preceding calendar year, and shall describe the method used by the manufacturer to calculate State sales.
- 501.3 Specialty Primers, Sealers, and Undercoaters: Each manufacturer of specialty primers, sealers, and undercoaters shall, on or before April 1 of each calendar year beginning in the year 2004, submit an annual report to the Executive Officer of the California Air Resources Board. The report shall specify the number of gallons of specialty primers, sealers, and undercoaters sold in California during the preceding calendar year, and shall describe the method used by the manufacturer to calculate State sales.
- 501.4 Toxic Exempt Compounds: For each architectural coating that contains perchloroethylene or methylene chloride, the manufacturer shall, on or before April 1 of each calendar year beginning in the year 2004, report to the Executive Officer of the California Air Resources Board the following information for products sold in California during the preceding year:
- 501.4.1 the product brand name and a copy of the product label with legible usage instructions;
- 501.4.2 the product category listed in the table in Section 301 to which the coating belongs;

- 501.4.3 the total sales in California during the calendar year to the nearest gallon;
- 501.4.4 the volume percent, to the nearest 0.10 percent, of perchloroethylene and methylene chloride in the coating.
- 501.5 Recycled Coating: Manufacturers of recycled coatings must submit a letter to the Executive Officer of the California Air Resources Board certifying their status as a Recycled Paint Manufacturer. The manufacturer shall, on or before April 1 of each calendar year beginning in the year 2004, submit an annual report to the Executive Officer of the California Air Resources Board. The report shall include, for all recycled coatings, the total number of gallons distributed in California during the preceding year, and shall describe the method used by the manufacturer to calculate California's distribution.
- 501.6 Bituminous Coatings: Each manufacturer of bituminous roof coatings or bituminous roof primers shall, on or before April 1 of each calendar year beginning in the year 2004, submit an annual report to the Executive Officer of the California Air Resources Board. The report shall specify the number of gallons of bituminous roof coatings or bituminous roof primers sold in California during the preceding calendar year, and shall describe the method used by the manufacturer to calculate California's sales.

502 TESTING PROCEDURE:

- 502.1 VOC Content: To determine the physical properties of a coating in order to perform the calculation in Section 402, the reference method for VOC content is U.S. Environmental Protection Agency Method 24, incorporated by reference in Section 502.4.11, except as provided in Sections 502.2 and 502.3. An alternative method to determine the VOC content of coatings is South Coast Air Quality Management District Method 304-91 (Revised February 1996), incorporated by reference in Section 502.4.12.

The exempt compounds content shall be determined by South Coast Air Quality Management District Method 303-91 (Revised August 1996), incorporated by reference in Section 502.4.10. To determine the VOC content of a coating, the manufacturer may use U.S. Environmental Protection Agency Method 24, or an alternative method as provided in Section 502.2, formulation data, or any other reasonable means for predicting that the coating has been formulated as intended (e.g. quality assurance checks, recordkeeping). However, if there are any inconsistencies between the results of a Method 24 test and any other means for determining VOC content, the Method 24 test results will govern, except when an alternative method is approved as specified in Section 502.2. The District Air Pollution Control Officer may require the manufacturer to conduct a Method 24 analysis.

- 502.2 Alternative Test Method: Other test methods demonstrated to provide results that are acceptable for purposes of determining compliance with Section 502.1, after review and approved in writing by the staffs of the District, the California Air Resources Board, and the U.S. Environmental Protection Agency, may also be used.
- 502.3 Methacrylate Traffic Marking Coatings: Analysis of methacrylate multicomponent coatings used as traffic marking coatings shall be conducted according to a modification of U.S. Environmental Protection Agency Method 24 (40 CFR 59, subpart D, Appendix A), incorporated by reference in Section 502.4.13. This method has not been approved for methacrylate multicomponent coatings used for purposes other than as traffic marking coatings or for other classes of multicomponent coatings.
- 502.4 Test Methods: The following test methods are incorporated by reference herein, and shall be used to test coatings subject to provisions of this rule:

- 502.4.1 Flame Spread Index: The flame spread index of a fire-retardant coating shall be determined by ASTM Designation E 84-99, "Standard Test Method for Surface Burning Characteristics of Building Materials", (see Section 220, Fire-Retardant Coating).
- 502.4.2 Fire Resistance Rating: The fire resistance rating of a fire-resistive coating shall be determined by ASTM Designation E 119-98, "Standard Test Methods for Fire Tests of Building Construction Materials", (see Section 219, Fire-Resistive Coating).
- 502.4.3 Gloss Determination: The gloss of a coating shall be determined by ASTM Designation D 523-89 (1999), "Standard Test Method for Specular Gloss", (see Section 221, 234, 235 and 240, Flat Coating, Nonflat Coating, Nonflat High Gloss Coating, and Quick-Dry Enamels).
- 502.4.4 Metal Content of Coatings: The metallic content of a coating shall be determined by South Coast Air Quality Management District Method 318-95, "Determination of Weight Percent Elemental Metal in Coatings by X-Ray Diffraction", South Coast Air Quality Management District "Laboratory Methods of Analysis for Enforcement Samples", (see Section 232, Metallic Pigmented Coating).
- 502.4.5 Acid Content of Coatings: The acid content of a coating shall be determined by ASTM Designation D 1613-96, "Standard Test Method for Acidity in Volatile Solvents and Chemical Intermediates Used in Paint, Varnish, Lacquer, and Related Products", (see Section 238, Pre-Treatment Wash Primers).
- 502.4.6 Drying Times: The set-to-touch, dry-hard, dry-to-touch, and dry-to-recoat times of a coating shall be determined by ASTM Designation D 1640-95, "Standard Test Methods for Drying, Curing, or Film Formation of Organic Coatings at Room Temperature", (see Section 240 and 241, Quick-Dry Enamel and Quick-Dry Primer, Sealer, and Undercoater). The tack-free time of a quick-dry enamel coating shall be determined by the Mechanical Test Method of ASTM Designation D 1640-95.
- 502.4.7 Surface Chalkiness: The chalkiness of a surface shall be determined using ASTM Designation D 4214-98, "Standard Test Methods for Evaluating the Degree of Chalking of Exterior Paint Films", (see Section 252, Specialty Primer, Sealer, and Undercoater).
- 502.4.8 Exempt Compounds - Siloxanes: Exempt compounds that are cyclic, branched, or linear completely methylated siloxanes, shall be analyzed as exempt compounds for compliance with Section 502 by Bay Area Air Quality Management District Method 43, "Determination of Volatile Methylsiloxanes in Solvent-Based Coatings, Inks, and Related Materials", Bay Area Air Quality Management District Manual of Procedures, Volume III, adopted 11/6/96, (see Section 261, Volatile Organic Compounds and Section 502.1).
- 502.4.9 Exempt Compounds - Parachlorobenzotrifluoride (PCBTF): The exempt compound parachlorobenzotrifluoride, shall be analyzed as an exempt compound for compliance with Section 502 by Bay Area Air Quality Management District Method 41, "Determination of Volatile Organic Compounds in Solvent-Based Coatings and Related Materials Containing Parachlorobenzotrifluoride", Bay Area Air Quality Management District Manual of Procedures, Volume III, adopted

12/20/95, (see Section 261, Volatile Organic Compound and Section 502.1).

- 502.4.10 Exempt Compounds: The content of compounds exempt under U.S. Environmental Protection Agency Method 24 shall be analyzed by South Coast Air Quality Management District Method 303-91 (Revised 1996), "Determination of Exempt Compounds", South Coast Air Quality Management District "Laboratory Methods of Analysis for Enforcement Samples", (see Section 261, Volatile Organic Compound and Section 502.1).
- 502.4.11 VOC Content of Coatings: The VOC content of a coating shall be determined by U.S. Environmental Protection Agency Method 24 as it exists in appendix A of 40 Code of Federal Regulations (CFR) part 60, "Determination of Volatile Matter Content, Water Content, Density, Volume Solids, and Weight Solids of Surface Coatings", (see Section 502.1).
- 502.4.12 Alternative VOC Content of Coatings: The VOC content of coatings may be analyzed either by U.S. Environmental Protection Agency Method 24 or South Coast Air Quality Management District Method 304-91 (Revised 1996), "Determination of Volatile Organic Compounds (VOC) in Various Materials," South Coast Air Quality Management District "Laboratory Methods of Analysis for Enforcement Samples", (see Section 502.1).
- 502.4.13 Methacrylate Traffic Marking Coatings: The VOC content of methacrylate multicomponent coatings used as traffic marking coatings shall be analyzed by the procedures in 40 CFR part 59, subpart D, appendix A, "Determination of Volatile Matter Content of Methacrylate Multicomponent Coatings Used as Traffic Marking Coatings", (September 11, 1998), (see Section 502.1).

APPENDIX A AVERAGING PROVISION

A. AVERAGING PROVISION

- A.1 The manufacturer shall demonstrate that actual emissions from the coatings being averaged are less than or equal to the allowable emissions, for the specified compliance period using the following equation:

$$\sum_{i=1}^n G_i M_i \leq \sum_{i=1}^n G_i V_i L_i$$

Where:

$$\sum_{i=1}^n G_i M_i = \text{Actual Emissions}$$

$$\sum_{i=1}^n G_i V_i L_i = \text{Allowable Emissions}$$

$$G_i = \text{Total Gallons of Product (i) subject to Averaging;}$$

$$\begin{aligned} M_i &= \text{Material VOC Content of Product (i), in pounds per gallon;} \\ M_i &= \frac{W_s - W_w - W_{ec}}{V_m} \end{aligned}$$

$$\begin{aligned} V_i &= \text{Percent by Volume Solids and VOC in Product (i);} \\ V_i &= \frac{V_m - V_w - V_{ec}}{V_m} \end{aligned}$$

$$\begin{aligned} W_s &= \text{weight of all volatiles, in pounds} \\ W_w &= \text{weight of water, in pounds} \\ W_{ec} &= \text{weight of exempt compounds, in pounds} \\ V_m &= \text{volume of water, in gallons} \\ V_w &= \text{volume of water, in gallons} \\ V_{ec} &= \text{volume of exempt compounds, in gallons} \end{aligned}$$

For Non-Zero VOC Coatings:

$$V_i = \frac{\text{Material VOC (also known as VOC Actual)}}{\text{Coating VOC (also known as VOC Regulatory)}}$$

Where:

$$\text{Coating VOC} = \frac{W_s - W_w - W_{ec}}{V_m - V_w - V_{ec}}$$

For Zero VOC Coatings:

$$V_i = \text{Percent Solids by Volume}$$

$$L_i = \text{Regulatory VOC Content Limit for Product (I), in pounds per gallon (as listed in the table in Section 301)}$$

The averaging is limited to coatings that are designated by the manufacturer. Any coating not designated in the averaging Program shall comply with the VOC limit in the table in Section 301. The manufacturer shall not include any quantity of coatings that it knows or should have known will not be used in California, if statewide coatings data are used. If district-specific coatings data are used, the manufacturer shall not include any quantity of coatings that it knows or should have known will not be used in the District.

- A.1.1 In addition to the requirements specified in Section A.1, manufacturers shall not include in an Averaging Program any coating with a VOC content in excess of the following maximum VOC contents, for the applicable categories.

Averaging Categories and VOC Ceiling (Maximum VOC Allowed)

CATEGORY	VOC LIMIT (LI)¹ (GRAMS/LITER)	MAXIMUM VOC CONTENT (GRAMS/LITER)
Flat Coating	100	250
Nonflat Coating	150	250
Floor Coatings	250	400
Industrial Maintenance Coatings	250	420
Primers, Sealers, and Undercoaters	200	350
Quick-Dry Primers, Sealers, and Undercoaters	200	450
Quick-Dry Enamels	250	400
Roof Coatings	250	250
Bituminous Roof coatings	300	300
Rust Preventative Coatings	400	400
Stains	250	350
Waterproofing Sealers	250	400

¹ As listed in Table 1. Used when determining allowable emissions in subsection A.1.

A.2 Averaging Program (Program)

At least six months prior to the start of the compliance period, manufacturers shall submit an Averaging Program to the Executive Officer of the Air Resources Board. As used in this Appendix A, "Executive Officer" means the Executive Officer of the Air Resources Board. Averaging may not be implemented until the Program is approved in writing by the Executive Officer.

Within 45 days of submittal of a complete Program, the Executive Officer shall either approve or disapprove the Program. The Program applicant and the Executive Officer may agree to an extension of time for the Executive Officer to take action on the Program.

A.3 General Requirements

The Program shall include all necessary information for the Executive Officer to make a determination as to whether the manufacturer may comply with the averaging requirements over the specified compliance period in an enforceable manner. Such information shall include, but is not limited to, the following:

- A.3.1 An identification of the contact persons, telephone numbers, and name of the manufacturer who is submitting the Program.
- A.3.2 An identification of each coating that has been selected by the manufacturer for inclusion in this program that exceeds the applicable VOC limit in the table in Section 301, its VOC content specified in units of both VOC actual and VOC regulatory, and the designation of the coating category.
- A.3.3 A detailed demonstration showing that the projected actual emissions will not exceed the allowable emissions for a single compliance period that the Program

will be in effect. In addition, the demonstration shall include VOC content information for each coating that is below the compliance limit in the table in Section 301. The demonstration shall use the equation specified in Section A.1 of this Appendix for projecting the actual emissions and allowable emissions during each compliance period. The demonstration shall also include all VOC content levels and projected volume sold within the State for each coating listed in the Program during each compliance period. The requested data can be summarized in a matrix form.

- A.3.4 A specification of the compliance period(s) and applicable reporting dates. The length of the compliance period shall not be more than one year or less than six months.
- A.3.5 An identification and description of all records to be made available to the Executive Officer upon request, if different than those identified under Section A.3.6.
- A.3.6 An identification and description of specific records to be used in calculating emissions for the Program and subsequent reporting, and a detailed explanation as to how those records will be used by the manufacturer to verify compliance with the averaging requirements.
- A.3.7 A statement, signed by a responsible party for the manufacturer, that all information submitted is true and correct, and that records will be made available to the Executive Officer upon request.

A.4 Reporting Requirements

- A.4.1 For every single compliance period, the manufacturer shall submit a mid-term report listing all coatings subject to averaging during the first half of the compliance period, detailed analysis of the actual and allowable emissions at the end of the mid-term, and an explanation as to how the manufacturer intends to achieve compliance by the end of the compliance period. The report shall be signed by the responsible party for the manufacturer, attesting that all information submitted is true and correct. The mid-term report shall be submitted within 45 days after the midway date of the compliance period. A manufacturer may request, in writing, an extension of up to 15 days for submittal of the mid-term report.
- A.4.2 Within 60 days after the end of the compliance period or upon termination of the Program, whichever is sooner, the manufacturer shall submit to the Executive Officer a report listing all coatings subject to averaging during the compliance period, providing a detailed demonstration of the balance between the actual and allowable emissions for the compliance period, any identification and description of specific records used by the manufacturer to verify compliance with the averaging requirement, and any other information requested by the Executive Officer to determine whether the manufacturer complied with the averaging requirements over the specified compliance period. The report shall be signed by the responsible party for the manufacturer, attesting that all information submitted is true and correct, and that records will be made available to the Executive Officer upon request. A manufacturer may request, in writing, an extension of up to 30 days for submittal of the final report.

A.5 Renewal of a Program

A Program automatically expires at the end of the compliance period. The manufacturer may request a renewal of the Program by submitting a renewal request that shall include an updated Program, meeting all applicable Program requirements. The renewal request will be considered conditionally approved until the Executive Officer makes a final decision to deny or approve the renewal request based on a determination of whether the manufacturer is likely to comply with the averaging requirements. The Executive Officer shall base such determination

December 13, 2001

on all available information, including but not limited to, the mid-term and the final reports of the preceding compliance period. The Executive Officer shall make a decision to deny or approve a renewal request no later than 45 days from the date of the final report submittal, unless the manufacturer and the Executive Officer agree to an extension of time for the Executive Officer to take action on the renewal request.

A.6 Modification of a Program

A manufacturer may request a modification of the Program at any time prior to the end of the compliance period. The Executive Officer shall take action to approve or disapprove the modification request no longer than 45 days from the date of its submittal. No modification of the compliance period shall be allowed. A Program need not be modified to specify additional coatings to be averaged that are below the applicable VOC limits.

A.7 Termination of a Program

A.7.1 A manufacturer may terminate its Program at any time by filing a written notification to the Executive Officer. The filing date shall be considered the effective date of the termination, and all other provisions of this rule including the VOC limits shall immediately thereafter apply. The manufacturer shall also submit a final report 60 days after the termination date. Any exceedance of the actual emissions over the allowable emissions over the period that the Program was in effect shall constitute a separate violation for each day of the entire compliance period.

A.7.2 The Executive Officer may terminate a Program if any of the following circumstances occur:

A.7.2.1 The manufacturer violates the requirements of the approved Program, and at the end of the compliance period, the actual emissions exceed the allowable emissions.

A.7.2.2 The manufacturer demonstrates a recurring pattern of violations and has consistently failed to take the necessary steps to correct those violations.

A.8 Change in VOC Limits

If the VOC limits of a coating listed in the Program are amended such that its effective date is less than one year from the date of adoption, the affected manufacturer may base its averaging on the prior limits of that coating until the end of the compliance period immediately following the date of adoption.

A.9 Labeling

Each container of any coating that is included in averaging program, and that exceeds the applicable VOC limit in the table in Section 301 shall display the following statement: "This product is subject to architectural coatings averaging provisions in California." A symbol specified by the Executive Officer may be used as a substitute.

A.10 Violations

The exceedance of the allowable emissions for any compliance period shall constitute a separate violation for each day of the compliance period. However, any violation of the requirements of the Averaging Provision of this rule, which the violator can demonstrate, to the Executive Officer, did not cause or allow the emission of an air contaminant and was not the result of negligent or knowing activity may be considered a minor violation.

A.11 Sunset of Averaging Provision

The averaging provision set forth in Appendix A shall cease to be effective on January 1, 2005, after which averaging will no longer be allowed.

RULE 219 ORGANIC SOLVENTS

Adopted 06-19-79
(Amended 05-20-85)

- A. A person shall not discharge into the atmosphere more than 15 pounds of organic materials in any one day, nor more than 3 pounds in any one hour, from any article, machine, equipment or other contrivance, in which any organic solvent or any material containing solvent comes into contact with flame or is baked, heat cured or heat polymerized, in the presence of oxygen, unless said discharge has been reduced by at least 85 percent. Those portions of any series of articles, machines, equipment or other contrivances designed for processing a continuous web, strip or wire which emit organic materials and using operations described in this section, shall be collectively subject to compliance with this section.
- B. A person shall not discharge into the atmosphere more than 40 pounds of organic materials in any one day, nor more than 8 pounds in any one hour, from any article, machine, equipment or other contrivance used under conditions other than described in Section (A) for employing, or applying, any photochemically reactive solvent, as defined in Section (H) or material containing such photochemically reactive solvent, unless said discharge has been reduced by at least 85 percent. Emissions of organic materials into the atmosphere resulting from air or heated drying of products for the first 12 hours after their removal from any article, machine, equipment, or other contrivance described in this section shall be included in determining compliance with this section. Emissions resulting from baking, heat-curing or heat-polymerizing as described in Section (A) shall be excluded from determination or compliance with this section. Those portions of any series of articles, machines, equipment or other contrivances designed for processing a continuous web, strip, or wire which emit organic materials using operations described in this section shall be collectively subject to compliance with this section.
- C. A person shall not discharge into the atmosphere more than 3000 pounds of organic materials in any one day or more than 450 pounds in any one hour, from any article, machine, equipment or other contrivance in which any non-photochemically reactive organic solvent or any material containing such solvent is employed or applied, unless said discharge has been reduced by at least 85 percent. Emissions of organic materials into the atmosphere resulting from air or heated drying of products for the first 12 hours after their removal from any article, machine, equipment, or other contrivance described in this section shall be included in determining compliance with this section. Emissions resulting from baking, heat-curing, or heat-polymerizing as described in Section (A) shall be excluded from determination of compliance with this section. Those portions of any series of articles, machines, equipment, or other contrivance designed for processing a continuous web, strip or wire which emit organic materials and using operations described in this section shall be collectively subject to compliance with this section.
- D. A person shall not, during any one day, dispose of a total of more than 1.5 gallons of any photochemically reactive solvent as defined in Section (H), or of any material containing more than 1.5 gallons of any such photochemically reactive solvent by means which will permit the evaporation of such solvent into the atmosphere.
- E. Emissions of organic materials into the atmosphere from the cleanup with photochemically reactive solvent, as defined in Section (H), of any article, machine, equipment or other contrivance described in Sections (A), (B), or (C), shall be included with the other emissions of organic materials from that article, machine, equipment or other contrivance for determining compliance with this rule.
- F. Emissions of organic materials into the atmosphere required to be controlled by Sections (A), (B) or (C) shall be reduced by:
 - 1. Incineration, provided that 90 percent or more of the carbon in the organic material being incinerated is oxidized to carbon monoxide, or

2. Adsorption, or
 3. Processing in a manner determined by the Air Pollution Control Officer to be not less effective than (1) or (2) above.
- G. For the purposes of this rule, organic solvents include diluents and thinners and are defined as organic materials which are liquids at standard conditions and which are used as solvers, viscosity reducers or cleaning agents, except that such materials which exhibit a boiling point higher than 221 degrees F at 0.5 millimeters mercury absolute pressure or having an equivalent vapor pressure shall not be considered to be solvents unless exposed to temperatures exceeding 221 degrees F.
- H. For the purposes of this rule, a photochemically reactive solvent is any solvent with an aggregate of more than 20 percent of its total volume composed of chemical compounds classified below or which exceed any of the following individual percentage composition limitations, referred to the total volume of solvent:
1. A combination of hydrocarbons, alcohols, aldehydes, esters, ethers, or ketones having an olefinic or cyclo-olefinic type of unsaturation: **5 percent**.
 2. A combination of aromatic compounds with eight or more carbon atoms to the molecule except ethylbenzene: **8 percent**.
 3. A combination of ethylbenzene, ketones having branched hydrocarbon structures, trichloroethylene or toluene: **20 percent**.
- Whenever any organic solvent or any constituents of any organic solvent may be classified from its chemical structure into more than one of the above groups of organic compounds, it shall be considered as a member of the most reactive chemical group, that group having the least allowable percent of the total volume of solvents.
- I. For the purposes of this rule, organic materials are defined as chemical compounds of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides, metallic carbonates and ammonium carbonate.
- J. A person incinerating, adsorbing, or otherwise processing organic materials pursuant to this rule shall provide, properly install, and maintain in calibration, in good working order and in operation, devices specified in the Authority to Construct or the Permit to Operate or as specified by the Air Pollution Control Officer, for indicating temperatures, pressures, rates of flow or other operating conditions necessary to determine the degree of effectiveness of air pollution control.
- K. Any person using organic solvents or any materials containing organic solvents shall supply the Air Pollution Control Officer, upon request, and in the manner and form prescribed by him, written evidence of the chemical composition, physical properties and amount consumed for each organic solvent used.
- L. The provisions of this rule shall not apply to:
1. The manufacturer of organic solvents, or the transport or storage of organic solvents or materials containing organic solvents.
 2. The spraying or other employment of insecticides, pesticides or herbicides.
 3. The employment, application, evaporation or drying of saturated halogenated hydrocarbons or perchloroethylene.
 4. The use of any material, in any article, machine, equipment or other contrivance described in Sections (A), (B), (C) or (E), if:

- a. The volatile content of such material consists only of water and organic solvents, and
 - b. The organic solvents comprise not more than 20 percent by volume of said volatile content, and
 - c. The volatile content is not photochemically reactive as defined in Section (H), and
 - d. The organic solvent of any material containing organic solvent does not come into contact with flame.
5. The use of any material, in any article, machine, equipment or other contrivance described in Sections (A), (B), (C) or (E), if:
- a. The organic solvent content of such material does not exceed 20 percent by volume of said materials, and
 - b. The volatile content is not photochemically reactive as defined in Section (H), and
 - c. The organic solvent or any material containing organic solvent does not come into contact with flame.
- M. In addition to other restrictions contained in these rules and regulations:
- 1. A person shall not use, in any dry cleaning operation, organic solvents containing 4 percent or more by volume of any photochemically reactive organic material as defined in Section (H) unless the emissions of the discharged organics are reduced by 90 percent or more by use of the methods described in Section (F).
 - 2. A person shall not discharge into the atmosphere any organic materials from surface degreasing operations unless they are either reduced by at least 85 percent, or unless such materials are not photochemically reactive as defined in Section (H).
 - 3. A person shall not manufacture, for use within Placer County, nor use any photochemically reactive solvent as defined in Section (H) for the purpose of thinning or diluting any metal surface coating.

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RULE 220 ABRASIVE BLASTING

Adopted 05-24-77
(Amended 06-19-79)

By reference Title 17 Subchapter 6 of the California Administrative Code shall apply.

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RULE 221 COMPLIANCE TESTS

Adopted 06-19-79

Except as otherwise stated in these rules and regulations, performance tests undertaken to determine compliance of sources with Regulation II shall comply with the provisions of CFR 40, Part 60, Appendix A except that Method 5 shall be modified to include the impinger train catch.

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RULE 222 REDUCTION OF ANIMAL MATTER

Adopted 06-19-79

A person shall not operator or use any article, machine, equipment or other contrivance for the reduction of animal matter unless all gases, vapors and gas-entrained effluents from such an article, machine equipment or other contrivance are:

- A. Incinerated at temperatures of not less than 1,200 degrees Fahrenheit for a period of not less than 0.3 seconds, or
- B. Processed in a manner determined by the Air Pollution Control Officer to be as effective for the purpose of emission control than Subsection (A) above.

A person incinerating or processing gases, vapors, or gas-entrained effluents pursuant to this rule shall provide, properly install and maintain in calibration, in good working order and in operation, devices as specified in the Authority to Construct or Permit to Operate or as specified by the Air Pollution Control Officer, for indicating temperature, pressure or other operating conditions.

For the purposes of this rule, "reduction" is defined as any heated process, including rendering, cooking, drying, dehydration, digesting, evaporating and protein concentrating.

The provisions of this rule shall not apply to any article, machine, equipment or other contrivance used exclusively for the processing of food for human consumption.

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RULE 223 METAL CONTAINER COATING

Adopted 04-21-81
(Amended 09-25-90, 10-19-93, 10-06-94)

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100 GENERAL

- 101 APPLICABILITY:** The provisions of this rule shall apply to all metal container coating operations that use volatile organic compounds.

200 DEFINITIONS

- 201 COATING APPLICATOR:** An apparatus used to apply a surface coating.
- 202 COATING LINE:** An operation or process for applying, drying, baking, and/or curing surface coatings, together with associated equipment including a coating applicator, flash-off area and oven.
- 203 CAN COATING:** Any coating containing organic materials and applied or intended for application by spray, roller, or other means onto the interior and/or exterior of metal cans, drums, pails, or lids.
- 204 CLOSURE:** Any component that is used to close or seal a container
- 205 COIL:** Any flat metal sheet or strip that is rolled or wound in concentric rings.
- 206 COIL COATING:** Any coating applied to metal sheets or strips which are then rolled into coils for further industrial or commercial use.
- 207 CONTAINER:** Any three-piece can, two-piece can, drum, pail or tube.
- 208 DRUM:** Any cylindrical metal shipping container larger than 12 gallons capacity but not larger than 110 gallons capacity.
- 209 ENCLOSED GUN WASHER:** A washing system that has an enclosed solvent container, and uses non-atomized solvent flow to flush the spray equipment and collects and returns discharged solvent to the enclosed container.
- 210 END SEALING COMPOUND:** A compound which is coated onto can ends and which functions as a gasket when the end is assembled onto the can.
- 211 EXEMPT COMPOUNDS:** For the purposes of this rule, exempt compounds are the following:
- 211.1 Methane
 - 211.2 Carbon dioxide
 - 211.3 Carbon monoxide
 - 211.4 Carbonic acid
 - 211.5 Metallic carbides or carbonates
 - 211.6 Ammonium carbonate
 - 211.7 1,1,1-trichloroethane
 - 211.8 Methylene chloride
 - 211.9 2,2-dichloro-1,1,1-trifluoroethane (HCFC-123)
 - 211.10 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124)
 - 211.11 Trichlorofluoromethane (CFC-11)
 - 211.12 Dichlorodifluoromethane (CFC-12)
 - 211.13 1,1,1-trichloro-2,2,2-trifluoroethane (CFC-113)
 - 211.14 1-chloro-1,1-difluoro-2-chloro-2,2-difluoroethane (CFC-114)
 - 211.15 Chloropentafluoroethane (CFC-115)
 - 211.16 Pentafluoroethane (HFC-125)
 - 211.17 1,1,2,2-tetrafluoroethane (HFC-134)
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- 211.19 1,1-dichloro-1-fluoroethane (HCFC-141b)
- 211.20 1-chloro-1,1-difluoroethane (HCFC-142b)
- 211.21 1,1,1-trifluoroethane (HFC-143a)
- 211.22 Chlorodifluoromethane (HCFC-22)
- 211.23 Trifluoromethane (HFC-23)
- 211.24 Difluoroethane (HFC-152a)
- 211.25 The following four classes of perfluorocarbon compounds:
 - a. Cyclic, branched, or linear, completely fluorinated alkanes.
 - b. Cyclic, branched, or linear, completely fluorinated ethers with no unsaturations.
 - c. Cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations.
 - d. Sulfur-containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.

Perfluorocarbon compounds will be assumed to be absent from a product or process unless a manufacturer or facility operator identifies the specific individual compounds (from the broad classes of perfluorocarbon compounds) and the amounts present in the product or process and provides a validated test method which can be used to quantify the specific compounds.

- 212 EXTERIOR BASE COATING:** A coating applied to the exterior of a container body to provide protection to the metal or to provide background for any lithographic or printing operation.
- 213 EXTERIOR BODY SPRAY:** A coating sprayed on the exterior of a container body to provide a decorative or protective finish.
- 214 FOOD/BEVERAGE CAN:** A metal container in which food or beverages intended for human consumption are packaged.
- 215 GRAMS OF VOC PER LITER OF COATING (AS APPLIED EXCLUDING WATER AND EXCLUDING EXEMPT COMPOUNDS):** The weight of VOC per combined volume of VOC and coating solids. This can be calculated by the following equation:

$$G_{\text{voc}} = (W_v - W_w - W_{\text{ec}}) / (V_m - V_w - V_{\text{ec}})$$

where:

- G_{voc} = Grams VOC per liter of coating less water and exempt compounds
- W_v = Weight of all volatile compounds in grams
- W_w = Weight of water in grams
- W_{ec} = Weight of exempt compounds in grams
- V_m = Volume of coating material in liters
- V_w = Volume of water in liters
- V_{ec} = Volume of exempt compounds in liters

- 216 GRAMS OF VOC PER LITER OF MATERIAL:** The weight of VOC per combined volume of material. This can be calculated by the following equation:

$$G_{\text{voc}} = (W_v - W_w - W_{\text{ec}}) / V_m$$

- where:
 - G_{voc} = Grams VOC per liter of material
 - W_v = Weight of all volatile compounds in grams
 - W_w = Weight of water in grams
 - W_{ec} = Weight of exempt compounds in grams
 - V_m = Volume of material in liters

- 217 HIGH-VOLUME LOW-PRESSURE (HVLP):** A coating application system that is operated on a delivered air pressure between 0.1 and 10 psig air pressure.
- 218 INK:** Any coating used in any operation that imparts color, design, alphabet, or numerals on an exterior surface of a metal container or closure.
- 219 INTERIOR BASE COATING:** A coating applied to the interior of a container body to provide a protective lining between the product and the can.
- 220 INTERIOR BODY SPRAY:** A coating sprayed on the interior of the container body to provide a protective film between the product and the can.
- 221 LUBRICANT APPLICATOR:** An apparatus used to apply a surface lubricant to beverage container lid tabs.
- 222 NECKER LUBRICANT:** Any fluid or solid applied to a can forming tool to reduce friction while reducing the can diameter to form a neck.
- 223 OVERVARNISH:** A coating applied directly over a design coating to reduce the coefficient of friction, to provide gloss and to protect the finish against abrasion and corrosion.
- 224 PAIL:** Any metal container from 1 gallon to 12 gallon capacity and constructed of 29 gauge or heavier material.
- 225 RECONDITIONED DRUMS, PAILS, OR LIDS:** Any drum, pail, or lid which is reused, recycled or remanufactured.
- 226 TAB PRESS LUBRICATION:** The process that uses a lubricated mechanical press to create beverage container lid tabs from flat aluminum metal stock.
- 227 THREE-PIECE CAN SIDE-SEAM SPRAY:** A coating sprayed on the interior and/or exterior of a welded, cemented or soldered seam to protect the exposed metal.
- 228 TWO-PIECE CAN EXTERIOR END COATING:** A coating applied to the exterior end of a can to provide protection to the metal.
- 229 VOLATILE ORGANIC COMPOUND (VOC):** Any compound that contains at least one atom of carbon, except exempt compounds.

300 STANDARDS

- 301 VOC LIMITATIONS:** Except as provided in Section 302, a person shall not use or apply any coating on any coating line of the type designated below that contains volatile organic compounds in excess of the following limits:

<u>Coating Category</u>		Grams of VOC/liter of coating as applied, excluding water and exempt compounds.
301.1	Sheet basecoat (interior and exterior) and over-varnish	225
301.2	Two piece can exterior basecoat and over-varnish	250
301.3	Coil Coating	200

301.4	Interior body spray	
	Two piece can	420
	Three piece can	360
301.5	Three piece can side seam spray	660
301.6	End sealing compound:	
	food / beverage	440
	non-food / non-beverage	0
301.7	Exterior body spray	420
301.8	Reconditioned drums, pails and lids coatings:	
	Interior	510
	Exterior	420
301.9	New drums, pails and lids coatings:	
	Exterior, Air Dried	340
	Exterior, Baked	340
	Interior	420
301.10	Inks	225
301.11	Tab Press Lubricant	690
301.12	Necker Lubricants	100

302 EMISSION CONTROL SYSTEM: Alternatively, a person may comply with the provisions of Section 301 by using an emission control system, provided that the overall efficiency of the system (capture efficiency multiplied by control efficiency) shall not be less than 85 percent by weight in reducing emissions of organic compounds. The total VOC emissions from operations under this section, considering capture and control efficiencies, shall be equivalent to or less than the VOC emissions level that would be achieved by complying with Section 301. The emission control system shall be approved in writing by the Air Pollution Control Officer in accordance with Rule 501, GENERAL PERMIT REQUIREMENTS.

303 APPLICATION METHODS: Except for can interior and automatic triggered sideseam sprays, a person shall not apply coatings that contain volatile organic compounds unless the coating is applied with one of the following methods:

- 303.1 Electrostatic application operated in accordance with the manufacturer's recommendations.
- 303.2 Flow coat.
- 303.3 Roll coat.
- 303.4 Dip coat.
- 303.5 Squeegee pad.
- 303.6 High-volume low-pressure (HVLP) operated in accordance with the manufacturer's recommendations.

304 PROHIBITION OF SPECIFICATION: A person shall not solicit nor require for use nor specify the application of a coating to any metal container or closure if such use or application results in a violation of the provisions of this rule. The prohibition applies to all written or oral contracts under the terms of which any coating that is subject to the provisions of this rule is to be applied to any metal container or closure at any physical location within the District.

305 SURFACE PREPARATION AND CLEAN-UP SOLVENT: The requirements of this section shall apply to any person using VOC-containing materials for surface preparation and clean-up:

305.1 A person shall not use materials that have a VOC content in excess of 200 grams per liter of material for surface preparation.

305.2 A person shall use closed, nonabsorbent containers for the storage or disposal of cloth or paper used for clean-up.

305.3 A person shall not use volatile organic compounds for the clean-up of spray equipment, including paint lines, unless an enclosed gun washer or other low-emission washing system approved in writing by the Air Pollution Control Officer is used.

305.4 A person shall not use organic compounds with a composite vapor pressure equal to or greater than 45 mm Hg measured at 20 °C (68 °F) in a gun washing system.

400 ADMINISTRATIVE REQUIREMENTS

401 COMPLIANCE SCHEDULE:

401.1 VOC Limitations: The VOC limitations described in Section 301, or alternatively Section 302, of this rule shall be achieved on or before October 6, 1995, with the exception of facilities subject to the Tab Press Lubricant limitation of Subsection 301.10, for which compliance is required no later than May 31, 1995.

401.2 Application Methods: The application methods described in Section 303 of this rule shall be in use on or before October 6, 1995, with the exception of facilities subject to the Tab Press Lubricant limitation of Subsection 301.10, for which compliance is required no later than May 31, 1995.

401.3 Surface Preparation and Clean-Up Solvents: The surface preparation and clean-up solvents and gun washing system described in Sections 305.1, 305.3, and 305.4 shall be in use on or before October 6, 1995, with the exception of facilities subject to the Tab Press Lubricant limitation of Subsection 301.10, for which compliance is required no later than May 31, 1995.

401.4 Compliance with all other requirements of this rule shall become effective upon adoption.

402 OPERATION AND MAINTENANCE PLAN: A person using an emission control device as a means of complying with this rule, as provided in Section 302, shall submit an Operation and Maintenance Plan with the application for Authority to Construct for the emission control device.

- 402.1 The Operation and Maintenance Plan shall specify:
- a. Operation and maintenance procedures that will demonstrate continuous operation of the emission control device during emission-producing operations;
 - b. Records that must be kept to document the operation and maintenance procedures.
- 402.2 The records must comply with Sections 502 and 503; and
- 402.3 The Operation and Maintenance Plan shall be implemented upon approval by the Air Pollution Control Officer.
- 402.4 After completing the construction of the emission control device, the Operation and Maintenance Plan shall be resubmitted annually for approval.

500 MONITORING AND RECORDS

501 RECORDKEEPING:

- 501.1 A person who is subject to the limitations of this regulation shall comply with all applicable recordkeeping requirements as specified in Rule 410, RECORDKEEPING FOR VOLATILE ORGANIC COMPOUND EMISSIONS.

502 CONTROL SYSTEM RECORDS:

- 502.1 A person using an emission control device pursuant to Section 302 as a means of complying with this rule shall maintain records as required by the Operation and Maintenance Plan specified in Section 402 on a daily basis.
- 502.2 Compliance with the standards of Section 302 shall be demonstrated by conducting annual source testing of any emission control equipment as specified in Section 505 and by analyzing coating VOC content as specified in Section 504.

- 503 DURATION OF RECORDS:** All records maintained pursuant to this rule shall be retained for at least two years from date of entry, with the exception that sources subject to the requirements of Rule 507, FEDERAL OPERATING PERMIT PROGRAM, shall retain records at least five years. Records shall be made available for inspection by the Air Pollution Control Officer upon request.

504 TEST METHODS FOR VOC CONTENT:

- 504.1 The VOC content of coatings subject to the provisions of this rule shall be analyzed using U.S. EPA Reference Method 24 as found in 40 CFR 60, Appendix A.

- 505 TEST METHOD FOR VAPOR PRESSURE:** Composite vapor pressure of an organic solvent used in a gun washing system shall be determined in accordance with ASTM D2879-83 and the following equation:

$$VP_c = \frac{\sum_{i=1}^n (W_i / MW_i) P_i^{sat}}{(W_w / MW_w) + (W_e / MW_e) + \sum_{i=1}^n (W_i / MW_i)}$$

Where:

VP_c	=	Composite vapor pressure of an organic solvent, in mm Hg
W_i	=	Weight of i^{th} compound, in grams
Wm_i	=	Molecular weight of i^{th} compound, in grams per gram-mole
P_i^{sat}	=	Saturate vapor pressure of i^{th} compound, in mm Hg
W_w	=	Weight of water, in grams
W_e	=	Weight of exempt compounds, in grams
MW_w	=	Molecular weight of water, in grams per mole
MW_e	=	Molecular weight of exempt compounds, in grams per mole

506 TEST METHODS FOR CAPTURE AND CONTROL EFFICIENCY:

- 506.1 Capture efficiency of the emission control system as specified in Section 302 shall be determined in accordance with the U.S. EPA protocols referenced in 40 CFR 52.741(a)(4)(iii).
- 506.2 Control efficiency as specified in Section 302 shall be determined by U.S. EPA Reference Methods 25 and 25A as found in 40 CFR Part 60, Appendix A, or ARB Method 100.

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RULE 224 AGGREGATE CONTAINING ASBESTOS

Adopted 06-17-86

- A. No person shall use aggregate containing asbestos in any application or use except as provided in this Rule.
- B. This Rule shall not apply to the use of aggregate containing asbestos if it is used:
 - 1. In a manner where the aggregate is permanently buried or sealed; or
 - 2. As a road base where the surface and edge berms are to be permanently sealed with asphaltic concrete, concrete, chip seal, (or other methods approved by the Air Pollution Control Officer), and the public is not allowed access to the road prior to its being sealed.
- C. This Rule shall not apply to private right-of-ways, including but not limited to, roads, streets and pathways constructed prior to April 1, 1986.
- D. This Rule shall not apply to right-of-ways which are comprised of aggregate containing asbestos that the Air Pollution Control Officer determines not to be a threat to human health. Such determination shall be made by a health risk assessment methodology approved by the California Department of Health Services.
- E. For the purpose of this Rule, "asbestos" means the asbestiform varieties of serpentine (chrysotile), riebeckite (crocidolite), cummingtonite-grunerite (amosite), anthophyllite, and actinolite-tremolite.
- F. Methods used to determine the asbestos content of aggregate samples shall be determined by the Air Pollution Control Officer.

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RULE 225 WOOD FIRED APPLIANCES

Adopted 06-17-86

A. APPLICABILITY:

1. The provisions of this Rule shall apply to that area known as Squaw Valley as identified on Plate 4, page 58 of the 1983 Squaw Valley General Plan. The legal description of the area for the purpose of this Rule is as follows:

S28 of T16N R16E; S 2 and NE 1/4 of S29 T16N R16E; SE 1/4 of S30 T16N R16E, NE 1/4 of S31 T16N R16E and the N 2 of S32 T16N R16E; and the NW 1/4 of S33 T16N R16E.

2. This regulation shall apply to all commercial and residential wood fired appliance installations.

B. DEFINITIONS:

1. For the purpose of this Rule "Wood Fired Appliance" is defined as an appliance with a closed combustion chamber which maintains an air-to-fuel ratio of less than 30 to 1 during the burning of 90% or more of the fuel mass consumed in the low firing cycle. The low firing cycle means less than or equal to 25% of the maximum burn rate achieved with doors closed or the minimum burn rate, whichever is greater.
2. For the purpose of this Rule "Fireplace" is defined as a combustion chamber which maintains an air to fuel ratio equal to or greater than 30 to 1 during the burning of 90% or more of the fuel mass consumed in the low firing cycle. The low firing cycle means less than or equal to 25% of the maximum burn rate achieved or the minimum burn rate, whichever is greater.
3. For the purpose of this Rule "Catalytic Combuster" is defined as any device coated with platinum, palladium or other rare metal located in the stack or combustion chamber of a wood fired appliance designed to cause relatively complete combustion at lower than normal temperatures.
4. For the purpose of this Rule "Single Family Residential" is defined as:
 - a. A detached building designed for or occupied by one family and located on a parcel where the uses specified in Section 1606.1 of the Placer County Zoning Ordinance are allowable; or
 - b. A detached building, under one roof, designed for or occupied exclusively by, two families living independently of each other and located on a parcel where the use specified in Section 1608.2 of the Placer County Zoning Ordinance is allow able.
5. For the purpose of this Rule "Multiple Unit Residential Development" is defined as dwelling groups or apartments with three or more total units located on a parcel where the use specified in Section 1608 and 1610 of the Placer County Zoning Ordinance is allowable.
6. For the purpose of this Rule "Public Area" is defined as an area of a multiple unit residential development, intended for use by groups of people, including but not

limited to a lounge, a restaurant, and a lobby, specifically excluding an office space, a hallway, a bedroom and other associated living areas.

C. STANDARDS:

1. Except as otherwise stated in this Rule, the use of wood fired appliances shall be limited to one certified appliance per commercial or single family residential structure which is approved after July 1, 1986.
2. After July 1, 1986, no person shall install and use in Squaw Valley, any wood fired appliance that is not certified by the State of Oregon, Department of Environmental Quality or as provided in Section C.6. to emit 15 grams per hour or less of particulate matter for non-catalytic equipped appliances, or 6 grams per hour or less for catalytic equipped appliances.
3. After July 1, 1988, no person shall install and use in Squaw Valley any wood fired appliance that is not certified by the State of Oregon, Department of Environmental Quality or as provided in Section C.6. to emit 9 grams per hour or less of particulate matter for non-catalytic equipped appliances or 4 grams per hour or less for catalytic equipped appliances.
4. Wood fired appliances or fireplaces shall not be used in multiple unit residential developments approved after July 1, 1986 except in public areas.
5. The use of coal as a fuel is prohibited.
6. Certification: Each appliance proposed for installation shall be certified by the State of Oregon, Department of Environmental Quality as being within the emission limits established in Section C.2. and C.3. Alternative certification may be used if the Air Pollution Control Officer determines that: 1) the test methodology used for certification is equivalent to that used in the State of Oregon's certification program and, 2) the certified emission levels are no greater than those specified in Section C.2. or C.3. of this Rule.

D. EXCEPTIONS:

1. For single family residential use, approved after July 1, 1986, a person may install and use more than one appliance, as long as the total emissions do not exceed the emission standards specified by Section C.2. or C.3. of this Rule for non-catalytic equipped appliances.
2. For existing single family residential use, a person with an existing non-certified wood fired appliance may install and use one additional wood fired appliance if the additional appliance is certified to meet the emission standards specified by Section C.2. or C.3. of this Rule.
3. Existing wood fired appliances may be replaced on a one to one basis with appliances certified to meet the emission standards specified by Section C.2. or C.3. of this Rule.

RULE 226 SULFUR CONTENT OF FUELS - LAKE TAHOE AIR BASIN

Adopted 06-19-79
(Amended 10-19-93)

This Rule shall apply to the Lake Tahoe Air Basin portion of the District.

- A. A person shall not sell or burn any liquid fuel having a sulfur content in excess of 0.5% by weight.
- B. A person shall not sell or burn any solid fossil fuel having a sulfur content in excess of 0.8% by weight.
- C. A person shall not sell or burn any natural gas or substitute natural gas commercially sold containing sulfur compounds in excess of 120 ppm (parts per million) calculated as hydrogen sulfide (H_2S).
- D. The provisions of Section C of this rule shall not apply to sewage digester gas.

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RULE 227 PETROLEUM DRY CLEANING OPERATIONS

Adopted 02-05-91

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A. GENERAL

1. PURPOSE

To limit the emission of volatile organic compounds from the following affected facilities located at a petroleum dry cleaning plant; dryers, washers, filters, stills and settling tanks. This rule applies to petroleum dry cleaning plants, constructed, reconstructed, or modified after December 14, 1982.

2. EXEMPTION

SMALL DRY CLEANING PLANTS - DRY CLEANING PLANTS WITH A TOTAL MANUFACTURER'S RATED DRYER capacity less than 38 kilograms (84 pounds) shall comply with this rule within five (5) years of the date of adoption..

B. DEFINITIONS

- 1. CARTRIDGE FILTER** - A discrete filter unit containing both filter paper and activated carbon that traps and removes contaminants from petroleum solvent, together with the piping and ductwork used in the installation of this device.
- 2. DRYER** - A machine used to remove petroleum solvent from articles of clothing, leather goods or other textiles, after washing and removing of excess petroleum solvent, together with the piping and ductwork used in the installation of this device.
- 3. MANUFACTURER'S RATED DRYER CAPACITY** - The dryer's rated capacity of articles, in pounds or kilograms of clothing articles per load, dry basis, that is typically found on each dryer, on the manufacturer's name-plate or in the specifications.
- 4. PERCEPTIBLE LEAKS** - Any petroleum solvent vapor or liquid leaks that are conspicuous from visual observation or that bubble after application of a soap solution, such as pools or droplets of liquid or containers of solvent or solvent laden waste standing open to the atmosphere.
- 5. PETROLEUM DRY CLEANER** - A dry cleaning facility that uses petroleum solvent in a combination of washers, dryers, filters, stills, and settling tanks.
- 6. SETTLING TANK** - A container that gravimetrically separates oils, grease, and dirt from petroleum solvent, together with the piping and ductwork used in the installation of this device.
- 7. SOLVENT FILTER** - A discrete solvent filter unit containing a porous medium that traps and removes contaminants from petroleum solvent, together with the piping and ductwork used in the installation of this device.
- 8. SOLVENT RECOVERY DRYER** - A class of dry cleaning dryer that employs a condenser to condense and recover solvent vapors evaporated in a closed loop stream of heated air, together with the piping and ductwork used in the installation of this device.
- 9. STILL** - A device used to volatilize, separate, and recover petroleum solvent from contaminated solvent, together with the piping and ductwork used in the installation of this device.
- 10. WASHER** - A machine which agitates fabric articles in a petroleum solvent bath and spins the articles to remove the solvent, together with the piping and ductwork used in the installation of this device.

C. STANDARDS

1. EQUIPMENT INSTALLATION AND OPERATION - A person shall comply with the following requirements:
 - a. Solvent Recovery Dryers - A dryer that is installed in a petroleum dry cleaning facility shall be a solvent recovery dryer. The solvent recovery dryer(s) shall be properly installed, operated, and maintained.
 - b. Cartridge Filters - The petroleum solvent filter installed shall be a cartridge filter. Cartridge filters shall be drained in their sealed housing for at least 24 hours prior to their removal.
 - c. Transfer of Cleaned Articles - Cleaned articles must be immediately transferred from the washer to the dryer, or stored in enclosed transfer carts.
 - d. Operating Requirement - There is no perceptible leak from any portion of the equipment.
2. OTHER REQUIREMENTS - The requirements prescribed in this rule apply on and after the date on which the performance test is required to be conducted, as given in Regulation V, Rule 501, Section 307, Performance Testing. If any other rule in these rules and regulations is more restrictive, that shall apply.

D. ADMINISTRATIVE REQUIREMENTS

1. LABELING REQUIREMENTS - A dry cleaning plant owner or operator shall post a clearly visible label specifying information for solvent recovery dryers. Such information should state: "To protect against fire hazards, loss of valuable solvents, and emissions of solvent to the atmosphere, periodic inspection of this equipment for evidence of leaks and prompt repair of any leaks is recommended." This District recommends that the equipment be inspected every 15 days and all vapor or liquid leaks be repaired within the subsequent 15 day period.

E. MONITORING AND RECORDS

1. MONITORING AND RECORD KEEPING REQUIREMENTS - A person subject to the requirements of this rule shall maintain a record of the performance test required under Regulation IV, Rule 410.
2. TEST METHODS AND PROCEDURES - A person subject to the requirements of this rule shall comply with the test methods and procedures contained in Section 60.624 of 40 CFR Part 60, Subpart JJJ.

RULE 228 FUGITIVE DUST

Adopted 06-19-79
(Amended 10-19-93, 04-10-03)

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100 GENERAL

- 101 PURPOSE:** To reduce the amount of particulate matter entrained in the ambient air, or discharged into the ambient air, as a result of anthropogenic (man-made) fugitive dust sources by requiring actions to prevent, reduce, or mitigate fugitive dust emissions.
- 102 APPLICABILITY:** The provisions of this rule shall apply to any activity or man-made condition capable of generating fugitive dust. The provisions of this rule apply to all of Placer County.
- 103 EXEMPTIONS:** The provisions of this rule shall not apply to:
- 103.1 Agricultural activities conducted and maintained for commercial agricultural purposes. If there is a question regarding whether an activity is an agricultural activity or a commercial agricultural activity, the APCO shall consult with the Agricultural Commissioner.
 - 103.2 Active operations conducted during emergency life-threatening situations, or in conjunction with any officially declared disaster or state of emergency, or to attend to uncontrolled fires.
 - 103.3 Active operations conducted by essential service utilities to provide electricity, natural gas, telephone, water and sewer during periods of service outages and emergency disruptions.
 - 103.4 Active operations conducted at solid waste landfills.
 - 103.5 Active operations within State or Federal lands.
 - 103.6 Active operations complying with California Forest Practice Rules.
 - 103.7 Any contractor subsequent to the time the contract ends, provided that such contractor implemented the required control measures during the contractual period.
 - 103.8 Weed abatement operations, fire hazard abatement, or vegetation clearing for fire defense purposes ordered or conducted by a county agricultural commissioner, or any state, county, or municipal fire department, or that is required by a local ordinance. The provisions of this clause do not exempt the owner of any property from controlling fugitive dust emissions emanating from disturbed surface areas and inactive disturbed surface areas created as a result of the exempt activity.
 - 103.9 Public unpaved roads that have the sole purpose of providing access to fire breaks or defensible spaces.
 - 103.10 Unpaved roads, unless such roads:
 - 103.10.1 Are within and part of a property undergoing development or construction; or
 - 103.10.2 Are public unpaved roads being constructed or undergoing a maintenance activity.
 - 103.11 To any active operation, open storage pile, or disturbed surface area for which necessary fugitive dust preventive or mitigating actions are in conflict with the California or federal Endangered Species Acts.

- 103.12 Non-routine or emergency maintenance of flood control or irrigation channels, canals, and water spreading basins.
- 103.13 To blasting operations that have been permitted by the California Division of Industrial Safety.
- 103.14 Quarrying and surface mining operations, or to sand and gravel mining, rock crushing, and aggregate and sand processing operations, provided that a permit has been issued by the District in accordance with Rule 501, General Permit Requirements, for such operations.

104 PARTIAL EXEMPTIONS:

- 104.1 Earth Covering of Paved Roadways: The provisions of Section 304 shall not apply to earth coverings of public paved roadways where such coverings are approved by a government agency for the protection of the roadway, and where such coverings are used as roadway crossings for haul vehicles.
- 104.2 Permitted Facilities: The provisions of Section 400, with the exception of Section 405, Reasonable Precautions, shall not apply to any facility permitted by the District in accordance with Rule 501, General Permit Requirements.
- 104.3 Permitted Facilities With Non-Fugitive Emissions: The provisions of Section 303 shall not apply to any facility having non-fugitive particulate matter emissions that are permitted by the District in accordance with Rule 501, General Permit Requirements.

200 DEFINITIONS: Except as defined below for the purposes of this Rule the terms used are as defined in Rule 102, Definitions.

- 201 ACTIVE OPERATIONS:** Any activity capable of generating fugitive dust, including, but not limited to, earth-moving activities, construction/demolition activities, or heavy- and light-duty vehicular movement on disturbed surface areas, including inactive disturbed surface areas, and unpaved roads within a construction or a development project.
- 202 AGRICULTURAL ACTIVITY:** Any activity, operation, facility, or appurtenances thereof, including, but not limited to, the cultivation and tillage of the soil, dairying, the production, cultivation, growing, and harvesting of any agricultural commodity including timber, viticulture, apiculture, or horticultural, the raising of livestock, fur bearing animals, fish, or poultry, and game birds, and any practices performed by a farmer or on a farm incident to or in conjunction with those farming operations, including preparation for market, delivery to storage or to market, or delivery to carriers for transportation to market.
- 203 ASBESTOS:** Asbestiforms of the following minerals: chrysotile (fibrous serpentine), crocidolite (fibrous riebeckite), amosite (fibrous ummingtonite--grunerite), fibrous tremolite, fibrous actinolite, and fibrous anthophyllite.
- 204 ASBESTOS AIRBORNE TOXIC CONTROL MEASURE FOR CONSTRUCTION, GRADING, QUARRYING, AND SURFACE MINING OPERATIONS:** A regulation adopted as Section 93105, Title 17, California Code of Regulations (CCR) by the California Air Resources Board per Health and Safety Code Section 39666 which requires the adoption of regulations to reduce emissions of identified airborne toxics to the lowest level achievable.
- 205 BOUNDARY LINE:** The boundaries of an area in which either a person causing the emission or a person allowing the emission has the legal use or possession. This may include all or portions of a legal parcel or parcels as defined by the Placer County Assessor.
- 206 BULK MATERIAL:** Any material which can emit dust when stored, disturbed, or handled, and is generally un-packaged, including sand, gravel, soil, aggregate material

less than two inches in length or diameter, and other organic or inorganic particulate matter.

- 207 CHEMICAL STABILIZERS:** A non-toxic chemical dust suppressant which must not be used if prohibited for use by the Regional Water Quality Control Boards, the California Air Resources Board, the Environmental Protection Agency, or any applicable law, rule or regulation; and should meet any specifications, criteria, or tests required by any federal, state, or local water agency. Unless otherwise indicated, the use of a non-toxic chemical stabilizer shall be of sufficient concentration and application frequency to maintain a stabilized surface.
- 208 CONSTRUCTION/DEMOLITION ACTIVITIES:** Any on-site mechanical activities preparatory to or related to the building, alteration, rehabilitation, demolition or improvement of property, including, but not limited to the following activities; grading, excavation, loading, crushing, cutting, planing, shaping or ground breaking.
- 209 CONTRACTOR:** Any person or licensed contractor, who has a contractual arrangement to conduct an active operation subject to this Rule for another person.
- 210 DISTURBED SURFACE AREA:** A portion of the earth's surface that has been physically moved, uncovered, destabilized, or otherwise modified from its undisturbed natural soil condition, thereby increasing the potential for emissions of fugitive dust. This definition excludes those areas that have:
- 210.1 Been restored to a natural state, such that the vegetative ground cover and soil characteristics are similar to adjacent or nearby natural conditions;
 - 210.2 Been paved or otherwise covered by a permanent structure; or
 - 210.3 Sustained a vegetative ground cover over at least 95 percent of an area for a period of at least 6 months.
- 211 DUST SUPPRESSANTS:** Water, hygroscopic materials, or non-toxic chemical stabilizers used as a treatment material to reduce fugitive dust emissions.
- 212 EARTH-MOVING ACTIVITIES:** Include, but are not limited to, grading, earth cutting and filling operations, loading or unloading of dirt or bulk materials, adding to or removing from open storage piles of bulk materials, or soil mulching.
- 213 FUGITIVE DUST:** Any solid particulate matter that becomes airborne, without first passing through a stack or duct, directly or indirectly as a result of the activities of man (i.e. anthropogenic), including the raising and/or keeping of animals.
- 214 GEOGRAPHIC ULTRAMAFIC ROCK UNIT:** A geographic area that is designated as an ultramafic rock unit or ultrabasic rock unit on maps identified in the California Air Resources Board's Asbestos Airborne Toxic Control Measure or Construction, Grading, Quarrying, and Surface Mining Operations.
- 215 INACTIVE DISTURBED SURFACE AREA:** Any disturbed surface area upon which active operations have not occurred or are not expected to occur for a period of seven (7) consecutive days.
- 216 NATURALLY-OCCURRING ASBESTOS:** Asbestos that has not been processed in an asbestos mill.
- 217 NON-ROUTINE:** Any non-periodic active operation that occurs no more than three (3) times per year, lasts less than 30 cumulative days per year, and is scheduled less than 30 days in advance.

- 218 OPEN STORAGE PILE:** Any accumulation of bulk material with five (5) percent or greater silt content which is not fully enclosed, covered or chemically stabilized, and which attains a height of three (3) feet or more and a total surface area of 150 or more square feet. Silt content level is assumed to be five (5) percent or greater unless a person can show, by sampling and analysis in accordance with ASTM Method C-136 or other equivalent method approved in writing by the Executive Officer of the California Air Resources Board, that the silt content is less than five (5) percent.
- 219 PARTICULATE MATTER:** Any material, except uncombined water, which exists in a finely divided form as a liquid or solid at standard conditions.
- 220 PAVED ROAD:** An improved street, highway, alley, public way, or easement that is covered by typical roadway materials excluding access roadways that connect a facility with a public paved roadway and are not open to through traffic. Public paved roads are those open to public access and that are under the jurisdiction of any federal, state, county, municipal or any other governmental or quasi-governmental agencies. Private paved roads are any paved roads not defined as public.
- 221 PM10:** Is particulate matter with an aerodynamic diameter smaller than or equal to a nominal 10 microns as measured by an applicable reference test method or methods found in Article 2, Subchapter 6, Title 17, California Code of Regulations (commencing with Section 94100).
- 222 ROAD CONSTRUCTION AND MAINTENANCE:** Activities undertaken to build roads, highways, railroads, bridges, culverts, drains and other works incidental to road or highway construction, and maintenance activities that involve grading or excavation.
- 223 SERPENTINE:** Any form of the following hydrous magnesium silicate minerals: antigorite, lizardite, and chrysotile.
- 224 SILT:** Any aggregate material with a particle size less than 74 micrometers in diameter that passes through a No. 200 Sieve.
- 225 SIMULTANEOUS SAMPLING:** The operation of two PM10 samplers in such a manner that one sampler is started within five (5) minutes of the other, and each sampler is operated for a consecutive period which must be not less than 290 minutes and not more than 310 minutes.
- 226 STABILIZED SURFACE** means:
- 226.1 Any disturbed surface area or open storage pile that is treated so it will be resistant to wind-driven fugitive dust;
- 226.2 Any unpaved road surface in which any fugitive dust plume emanating from vehicular traffic does not exceed 20 percent opacity.
- 227 TRACK-OUT/CARRY-OUT:** Any and all bulk materials that adhere to and agglomerate on the exterior surfaces of motor vehicles and/or equipment (including tires) that may then fall onto a paved road.
- 228 ULTRAMAFIC ROCK:** An igneous rock composed of 90 percent or greater of one or a combination of the following iron/magnesium-rich, dark-colored silicate minerals: olivine, pyroxene, or more rarely amphibole. For the purposes of this section, "ultramafic rock" includes the following rock types: dunite, pyroxenite, and peridotite; and their metamorphic derivatives.
- 229 UNPAVED ROADS:** Any unsealed or unpaved roads, equipment paths, or travel ways that are not covered by one of the following: concrete, asphaltic concrete, recycled asphalt, or asphalt. Public unpaved roads are any unpaved roadway under the jurisdiction of any federal, state, county, municipal or other governmental or quasi-

governmental agencies. Private unpaved roads are all other unpaved roadways not defined as public.

230 VISIBLE EMISSIONS: Visible emissions means any particulate matter that is visually detectable without the aid of instruments other than corrective lenses.

231 VISIBLE ROADWAY DUST: Any sand, soil, dirt, or other solid particulate matter which is visible upon paved road surfaces and which can be removed by a vacuum sweeper, or a wet sweeper under normal operating conditions.

232 WIND-DRIVEN FUGITIVE DUST: Visible emissions from any surface area that is generated by wind action alone.

300 STANDARDS

301 VISIBLE EMISSIONS NOT ALLOWED BEYOND BOUNDARY LINE: A person shall not cause or allow the emissions of fugitive dust from any active operation, open storage pile, or disturbed surface area (including disturbance as a result of the raising and/or keeping of animals or by vehicle use), such that the presence of such dust remains visible in the atmosphere beyond the boundary line of the emission source.

302 VISIBLE EMISSIONS FROM ACTIVE OPERATIONS: In addition to the requirements of Rule 202, Visible Emissions, a person shall not cause or allow fugitive dust generated by active operations, an open storage pile, or a disturbed surface area, such that the fugitive dust is of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke as dark or darker in shade as that designated as No. 2 on the Ringelmann Chart (i.e. 40% opacity), as published by the United States Bureau of Mines.

303 CONCENTRATION LIMIT: A person shall not cause or allow PM10 levels to exceed 50 micrograms per cubic meter, 24 hour average, when determined, by simultaneous sampling, as the difference between upwind and downwind samples collected on high-volume particulate matter samplers or other EPA-approved equivalent method for PM10 monitoring. Sampling shall be conducted in accordance with the procedures specified in Section 500.

304 TRACK-OUT ON TO PAVED PUBLIC ROADWAYS: Visible roadway dust as a result of active operations, spillage from transport trucks, and the track-out of bulk material onto public paved roadways shall be minimized and removed.

304.1 The track-out of bulk material onto public paved roadways as a result of operations, or erosion, shall be minimized by the use of track-out and erosion control, minimization, and preventative measures, and removed within one hour from adjacent streets such material anytime track-out extends for a cumulative distance of greater than 50 feet onto any paved public road during active operations.

304.2 All visible roadway dust tracked-out upon public paved roadways as a result of active operations shall be removed at the conclusion of each work day when active operations cease, or every twenty-four (24) hours for continuous operations. Wet sweeping or a HEPA filter equipped vacuum device shall be used for roadway dust removal.

304.3 Any material tracked-out, or carried by erosion, and clean-up water, shall be prevented from entering waterways or storm water inlets as required to comply water quality control requirements.

304.4 Track-out control in geographic ultramafic rock units or in identified naturally-occurring asbestos, serpentine, or ultramafic rock areas, shall comply with the requirements of the California Air Resources Board's Asbestos Airborne Toxic

400 ADMINISTRATIVE REQUIREMENTS

401 MINIMUM DUST CONTROL REQUIREMENTS: The following dust mitigation measures are to be initiated at the start and maintained throughout the duration of the construction or grading activity, including any construction or grading for road construction or maintenance.

- 401.1 Unpaved areas subject to vehicle traffic must be stabilized by being kept wet, treated with a chemical dust suppressant, or covered. In geographic ultramafic rock units, or when naturally-occurring asbestos, ultramafic rock, or serpentine is to be disturbed, the cover material shall contain less than 0.25 percent asbestos as determined using the bulk sampling method for asbestos in Section 502.
- 401.2 The speed of any vehicles and equipment traveling across unpaved areas must be no more than 15 miles per hour unless the road surface and surrounding area is sufficiently stabilized to prevent vehicles and equipment traveling more than 15 miles per hour from emitting dust exceeding Ringelmann 2 or visible emissions from crossing the project boundary line.
- 401.3 Storage piles and disturbed areas not subject to vehicular traffic must be stabilized by being kept wet, treated with a chemical dust suppressant, or covered when material is not being added to or removed from the pile.
- 401.4 Prior to any ground disturbance, including grading, excavating, and land clearing, sufficient water must be applied to the area to be disturbed to prevent emitting dust exceeding Ringelmann 2 and to minimize visible emissions from crossing the boundary line.
- 401.5 Construction vehicles leaving the site shall be cleaned to prevent dust, silt, mud, and dirt, from being released or tracked offsite.
- 401.6 When wind speeds are high enough to result in dust emissions crossing the boundary line, despite the application of dust mitigation measures, grading and earthmoving operations shall be suspended.
- 401.7 No trucks are allowed to transport excavated material off-site unless the trucks are maintained such that no spillage can occur from holes or other openings in cargo compartments, and loads are either:
 - 401.7.1 Covered with tarps; or
 - 401.7.2 Wetted and loaded such that the material does not touch the front, back, or sides of the cargo compartment at any point less than six inches from the top and that no point of the load extends above the top of the cargo compartment.
- 401.8 In geographic ultramafic rock units, or when naturally-occurring asbestos, ultramafic rock, or serpentine is disturbed, all equipment must be washed down before moving from the property onto a paved public road.
- 401.9 In geographic ultramafic rock units, or when naturally-occurring asbestos, ultramafic rock, or serpentine is disturbed, upon completion of the project disturbed surfaces shall be stabilized using one or more of the following methods:
 - 401.9.1 Establishment of a vegetative cover;

- 401.9.2 Placement of at least one (1.0) foot of non-asbestos-containing material;
- 401.9.3 Paving;
- 401.9.4 Any other measure deemed sufficient to prevent wind speeds of ten (10) miles per hour or greater from causing visible dust emissions.

402 WIND-DRIVEN FUGITIVE DUST CONTROL: A person shall take action(s), such as surface stabilization, establishment of a vegetative cover, or paving, to minimize wind-driven dust from inactive disturbed surface areas.

403 REQUIREMENTS FOR NATURALLY OCCURRING ASBESTOS AREAS: No person shall engage in any road construction or maintenance operations or construction or grading operations where the area to be disturbed is greater than one (1.0) acre without complying with the requirements of the State's Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations where:

- 403.1 Any portion of the area to be disturbed is located in a geographic ultramafic rock unit; or
- 403.2 Any portion of the area to be disturbed has naturally-occurring asbestos, serpentine, or ultramafic rock as determined by the person, owner/operator, or the Air Pollution Control Officer (APCO); or
- 403.3 Naturally-occurring asbestos, serpentine, or ultramafic rock is discovered by the owner/operator, a registered geologist, or the APCO, in the area to be disturbed after the start of any construction or grading operation.

404 COMPLIANCE WITH STANDARDS: Any person conducting active operations, or who is responsible for the man-made condition of open storage piles, disturbed surface areas (including disturbance as result of the raising and/or keeping of animals or by vehicle use), and inactive disturbed surface areas, shall take the measures necessary to comply with Section 300. The property owner, contractors, and any person, that conducts active operations that result in conditions generating fugitive dust is responsible for complying with the provisions of this rule.

405 REASONABLE PRECAUTIONS: The APCO in determining compliance with Section 300 will take into consideration causative factors, the fugitive dust control measures taken to comply with Section 300, the extent that all reasonable fugitive dust control measures are implemented prior to a violation, and the timeliness and extent of corrective actions taken. If both preventative and corrective measures were taken and were reasonable under the circumstances, as determined by the APCO, the APCO may find that enforcement action is not warranted.

500 MONITORING AND RECORDKEEPING

501 MONITORING:

- 501.1 Sampling to determine compliance with the particulate matter concentration limit of Section 303 is only required when deemed necessary by the APCO.
- 501.2 The conduct of sampling to demonstrate compliance with Section 303 may be required, with reasonable notice, of the person discharging emissions, or sampling may be conducted by the District with the costs of sampling, not to exceed actual costs, borne by the person discharging emissions.
- 501.3 Samplers shall be operated, maintained, and calibrated in accordance with 40 Code of Federal Regulations (CFR), Part 50, Appendix J, or appropriate EPA-published documents for EPA-approved equivalent method(s) for PM10.

- 501.4 Samplers shall be placed upwind and downwind of key activity areas and as close to the boundary line as feasible, such that other sources of fugitive dust between the sampler and the boundary line are minimized.
- 501.5 Procedures for the conduct of simultaneous sampling to determine compliance with Section 303, and the reporting of results, shall be approved by the APCO.

502 TEST METHODS

- 502.1 Ultramafic Rock: The ultramafic rock composition of any material shall be determined using standard analysis techniques including, but not limited to, color index assessment, microscopic examination, petrographic analysis or rock thin sections, or chemical analysis techniques, such as X-ray fluorescence spectrometry or inductively coupled plasma analysis.
- 502.2 Bulk Sampling Methods: ARB Test Method 435, or an alternative asbestos bulk test method approved in writing by the Executive Officer of the California Air Resources Board, shall be used to determine the asbestos content of a bulk sample. For the purposes of determining compliance with this section, references in ARB Test Method 435 to "serpentine aggregate" shall mean "gravel" or other "bulk materials" to be tested for asbestos content.

503 RECORDKEEPING

- 503.1 Record of Control Implementation: Any contractor engaged in any active operation subject to this rule shall maintain records of actions to stabilize surface areas sufficient to establish location, type and date of treatment. Records shall be maintained and be readily accessible for two (2) years after the date of each entry and shall be provided to the District upon request and shall be open for inspection during unscheduled audits during normal business hours.
- 503.2 Sampling Recordkeeping Requirements: Any person subject to this rule shall maintain for at least two (2) years all of the following records and such additional records required by the State's Asbestos Airborne Toxic Control Measure or Construction, Grading, Quarrying, and Surface Mining Operations when this regulation applies. Results of any air sampling or air monitoring conducted at the request of the APCO.
- 503.3 The results of any asbestos bulk sampling that meets any of the following conditions:
 - 503.3.1 The asbestos bulk sampling was conducted by the owner/operator to document that cover material in geographic ultramafic rock units, or when naturally-occurring asbestos, ultramafic rock, or serpentine is to be disturbed, contains less than 0.25 percent asbestos.
 - 503.3.2 The asbestos bulk sampling was done at the request of the APCO.

RULE 229 FIBERBOARD MANUFACTURING

Adopted 06-28-94

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100 GENERAL

101 APPLICABILITY: The provisions of this rule shall apply to Medium Density Fiberboard (MDF) plants.

200 DEFINITIONS

201 FIBER DRYER: A device that uses steam-generated heat to reduce the moisture content of wood fibers.

202 FIBERBOARD PRESS: A device that uses heat and pressure to form fiberboard from a preformed mat of wood fiber and resin.

203 MEDIUM DENSITY FIBERBOARD PLANT: A plant that manufactures medium density fiberboard consisting of a composite wood product created from digested and refined wood fibers bonded with urea-formaldehyde resin.

204 PRESS LINE: A series of operations occurring within the press building including mat forming, fiberboard pressing, board unloading, and board cooling.

205 PRESS VENT: A building opening through which emissions from fiberboard press lines are exhausted from the press line building.

206 VOLATILE ORGANIC COMPOUND (VOC): Any compound that contains at least one atom of carbon, except:

- 206.1 Methane
- 206.2 Carbon dioxide
- 206.3 Carbon monoxide
- 206.4 Carbonic acid
- 206.5 Metallic carbides or carbonates
- 206.6 Ammonium carbonate
- 206.7 1,1,1-trichloroethane
- 206.8 Methylene chloride
- 206.9 2,2-dichloro-1,1,1-trifluoroethane (HCFC-123)
- 206.10 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124)
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- 206.20 1-chloro-1,1-difluoroethane (HCFC-142b)
- 206.21 1,1,1-trifluoroethane (HFC-143a)
- 206.22 Chlorodifluoromethane (HCFC-22)
- 206.23 Trifluoromethane (HFC-23)
- 206.24 Difluoroethane (HFC-152a)
- 206.25 The following four classes of perfluorocarbon compounds:
 - a. Cyclic, branched, or linear, completely fluorinated alkanes.
 - b. Cyclic, branched, or linear, completely fluorinated ethers with no unsaturations.
 - c. Cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations.

- d. Sulfur-containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.

Perfluorocarbon compounds will be assumed to be absent from a product or process unless a manufacturer or facility operator identifies the specific individual compounds (from the broad classes of perfluorocarbon compounds) and the amounts present in the product or process and provides a validated test method which can be used to quantify the specific compounds.

300 STANDARDS

301 LIMITATIONS: Any person operating an affected MDF plant shall meet the following VOC emission limits:

301.1 Wood Fiber Dryers: A capture and control system shall be in operation to reduce VOC emissions from wood fiber dryers. The capture and control system shall be maintained and operated at all times during the operation of the wood fiber dryers. The overall efficiency of the system (capture efficiency multiplied by control efficiency) shall not be less than 50% by weight in reducing VOC emissions.

301.2 Press Vents: A capture and control system shall be in operation to reduce VOC emissions from press vents. The capture and control system shall be maintained and operated at all times during the operation of the press vents. The overall efficiency of the system (capture efficiency multiplied by control efficiency) shall not be less than 57% by weight in reducing VOC emissions.

301.3 Maximum Achieved Reduction Limitation: In the event that the overall efficiency of the control systems for the Wood Fiber Dryers and/or the Press Vents result in actual efficiencies equal to or greater than the minimum required efficiencies of Section 301.1 or Section 301.2 for the Wood Fiber Dryers and the Press Vents, respectively, the required emission limitation shall be equal to the highest overall control system efficiency demonstrated.

301.4 Allowable Emission Rate: The VOC emission limits satisfying the requirements of Sections 301.1, 301.2, or 301.3, shall be incorporated into the permit to operate of the stationary source and shall be a limiting condition of operation. The emission limitation represented by the application of the overall control system efficiency to the source emissions at the maximum permitted process rate may be expressed in the permit to operate as an emission rate or emission concentration limit.

400 ADMINISTRATIVE REQUIREMENTS

401 COMPLIANCE SCHEDULE: The limits specified in Sections 301.1 and 301.2 shall be achieved on or before May 31, 1995.

402 OPERATION AND MAINTENANCE PLAN: A person shall submit an Operation and Maintenance Plan for the emission control device with the application for Authority to Construct or by May 31, 1995, for existing facilities permitted by the District prior to June 28, 1994.

402.1 The Operation and Maintenance Plan shall specify:

- a. Operation and maintenance procedures that will demonstrate continuous operation of the emission control device during emission-producing operations; and

- b. Records that must be kept to document the operation and maintenance procedures.

402.2 The records must comply with Sections 501 and 502.

402.3 The Operation and Maintenance Plan shall be implemented upon approval by the Air Pollution Control Officer.

402.4 After completing the construction of the emission control device, the Operation and Maintenance Plan shall be resubmitted annually, or as otherwise requested by the Air Pollution Control Officer, for approval.

500 MONITORING AND RECORDS

501 CONTROL EQUIPMENT RECORDS:

501.1 Any person using an emission control device shall maintain such records as required by the Operation and Maintenance Plan specified in Section 402 on a daily basis.

501.2 Compliance with the standards of Sections 301.1 and 301.2 shall be demonstrated by conducting annual source testing of the emission control equipment as specified in Section 503.

501.3 An annual certification of compliance shall be submitted to the Air Pollution Control Officer on or before February 1 of each year. The certification of compliance shall include:

- a. A declaration that the facility is in compliance with all applicable requirements of this rule.
- b. The results of any compliance testing performed during the previous year.
- c. A description of any process upsets that occurred during the previous year that resulted in noncompliance with an emission limit or proper combustion conditions.

502 DURATION OF RECORDS: All records maintained pursuant to this rule shall be retained for at least two years from the date of entry, with the exception that sources subject to the requirements of Rule 507, FEDERAL OPERATING PERMIT PROGRAM, shall retain records at least five years. Records shall be made available for inspection by the Air Pollution Control Officer upon request.

503 TEST METHODS FOR CAPTURE AND CONTROL EFFICIENCY:

503.1 Capture efficiency of the emission control system, as specified in Sections 301.1 and 301.2, shall be conducted and reported in accordance with U.S. EPA protocols referenced in 50 CFR 52.741(a)(4)(iii).

503.2 Control efficiency, as specified in Sections 301.1 and 301.2, shall be determined by U.S. EPA Reference Methods 25 or 25A as found in 40 CFR Part 60, Appendix A.

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RULE 230 PLASTIC PRODUCTS AND MATERIALS - PAPER TREATING OPERATIONS

Adopted 06-28-94

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100 GENERAL

101 APPLICABILITY: The provisions of this rule shall apply to paper treating operations involving the application of melamine and phenolic resins to paper substrates.

200 DEFINITIONS

201 COATING APPLICATOR: An apparatus used to apply a surface coating.

202 EXEMPT COMPOUNDS: For the purposes of this rule, exempt compounds are the following:

- 202.1 Methane
- 202.2 Carbon dioxide
- 202.3 Carbon monoxide
- 202.4 Carbonic acid
- 202.5 Metallic carbides or carbonates
- 202.6 Ammonium carbonate
- 202.7 1,1,1-trichloroethane
- 202.8 Methylene chloride
- 202.9 2,2-dichloro-1,1,1-trifluoroethane (HCFC-123)
- 202.10 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124)
- 202.11 Trichlorofluoromethane (CFC-11)
- 202.12 Dichlorodifluoromethane (CFC-12)
- 202.13 1,1,1-trichloro-2,2,2-trifluoroethane (CFC-113)
- 202.14 1-chloro-1,1-difluoro-2-chloro-2,2-difluoroethane (CFC-114)
- 202.15 Chloropentafluoroethane (CFC-115)
- 202.16 Pentafluoroethane (HFC-125)
- 202.17 1,1,2,2-tetrafluoroethane (HFC-134)
- 202.18 Tetrafluoroethane (HFC-134a)
- 202.19 1,1-dichloro-1-fluoroethane (HCFC-141b)
- 202.20 1-chloro-1,1-difluoroethane (HCFC-142b)
- 202.21 1,1,1-trifluoroethane (HFC-143a)
- 202.22 Chlorodifluoromethane (HCFC-22)
- 202.23 Trifluoromethane (HFC-23)
- 202.24 Difluoroethane (HFC-152a)
- 202.25 The following four classes of perfluorocarbon compounds:
 - a. Cyclic, branched, or linear, completely fluorinated alkanes.
 - b. Cyclic, branched, or linear, completely fluorinated ethers with no unsaturations.
 - c. Cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations.
 - d. Sulfur-containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.

Perfluorocarbon compounds will be assumed to be absent from a product or process unless a manufacturer or facility operator identifies the specific individual compounds (from the broad classes of perfluorocarbon compounds) and the amounts present in the product or process and provides a validated test method which can be used to quantify the specific compounds.

203 MELAMINE TREATER: A coating line process where a melamine resin is applied to a paper substrate.

204 OVEN: A chamber within which heat is used for one or more of the following purposes: to dry, bake, cure, or polymerize a surface coating or ink.

205 PAPER TREATING OPERATION: The coating line process in which a uniform layer of phenolic or melamine resin is applied either by a) dipping a continuous, moving paper substrate into the resin and then using rollers to squeeze the excess resin from the paper, or b) applying the resin directly to the paper substrate with a roll applicator. Paper treating operations also include associated oven equipment used for drying the resin coating.

206 PHENOLIC TREATER: The coating line process where a phenolic resin is applied to the paper substrate.

207 POUNDS OF VOC PER GALLON OF COATING LESS WATER AND LESS EXEMPT COMPOUNDS: The weight of VOC per combined volume of VOC and coating solids and is calculated by the following equation:

$$G_{\text{voc}} = (W_v - W_w - W_{\text{ec}}) / (V_m - V_w - V_{\text{ec}})$$

where:

G_{voc} = Pounds VOC per gallon coating less water and exempt compounds

W_v = Weight of all volatile compounds in pounds

W_w = Weight of water in pounds

W_{ec} = Weight of exempt compounds in pounds

V_m = Volume of coating material in gallons

V_w = Volume of water in gallons

V_{ec} = Volume of exempt compounds in gallons

208 VOLATILE ORGANIC COMPOUND (VOC): Any compound that contains at least one atom of carbon, except exempt compounds.

300 STANDARDS

301 VOC LIMITATIONS: Except as provided in Section 302, the VOC content of coatings applied in paper treating operations shall not exceed 1.75 pounds of VOC per gallon of coating less water and exempt compounds for phenolic treaters, and 0.1 pounds of VOC per gallon of coating less water and exempt compounds for melamine treaters.

302 EMISSION CONTROL SYSTEM: Alternatively, a person may comply with the provisions of Section 301 by using an emission control system, provided that the overall efficiency of the system (capture efficiency multiplied by control efficiency) shall not be less than 85 percent by weight in reducing emissions of organic compounds. The total VOC emissions from paper treating operations under this section, considering capture and control efficiencies, shall be equivalent to or less than the VOC emissions level that would be achieved by complying with Section 301. The emission control system shall be approved in writing by the Air Pollution Control Officer in accordance with Rule 501 (General Permit Requirements).

400 ADMINISTRATIVE REQUIREMENTS

401 COMPLIANCE SCHEDULE: The VOC limitations specified in Section 301, or alternatively Section 302, shall be achieved on or before February 1, 1995.

402 OPERATION AND MAINTENANCE PLAN: Any person using an emission control device as a means of complying with this rule, as provided in Section 302, shall submit an Operation and Maintenance Plan with the application for Authority to Construct for the emission control device.

402.1 The Operation and Maintenance Plan shall specify:

- a. Operation and maintenance procedures that will demonstrate continuous operation of the emission control device during emission-producing operations; and
 - b. Records that must be kept to document the operation and maintenance procedures.
- 402.2 The records must comply with Sections 502 and 503.
- 402.3 The Operation and Maintenance Plan shall be implemented upon approval by the Air Pollution Control Officer.
- 402.4 After completing the construction of the emission control device, the Operation and Maintenance Plan shall be resubmitted annually for approval.

500 MONITORING AND RECORDS

501 COATING AND SOLVENT RECORDS

- 501.1 Any person subject to the provisions of this rule shall maintain a current list of coatings and solvents used in paper treating operations that includes the information required below. This information shall be updated whenever the coating/solvent formulation is changed, and may be obtained from the coating/solvent manufacturer or from data collected in accordance with the provisions of this rule.
 - a. name and manufacturer information;
 - b. mixing instructions;
 - c. density;
 - d. weight percent VOC as applied;
 - e. weight percent water;
 - f. weight percent exempt compounds;
 - g. volume percent water; and
 - h. volume percent exempt compounds.
- 501.2 Any person subject to the provisions of this rule shall maintain records of the amounts of coatings and VOCs used in paper treating operations according to the following schedule:
 - a. monthly records showing the types and amounts of coatings used that meet the VOC limitations in Section 301 and
 - b. daily records showing the types and amounts of coatings used in paper treating operations when such usage was in conjunction with an emission control system as provided in Section 302.

502 CONTROL EQUIPMENT RECORDS

- 502.1 Any person using an emission control device pursuant to Section 302 as a means of complying with this rule shall maintain such records as required by the Operation and Maintenance Plan specified in Section 402 on a daily basis.
- 502.2 Compliance with the standards of Section 302 shall be demonstrated by conducting annual source testing of any emission control equipment as specified in Section 505 and by analyzing resin VOC content as specified in Section 504.

503 DURATION OF RECORDS: All records maintained pursuant to this rule shall be retained for at least two years from the date of entry, with the exception that sources subject to the requirements of Rule 507, FEDERAL OPERATING PERMIT PROGRAM, shall retain records at least five years. Records shall be made available for inspection by the Air Pollution Control Officer upon request.

504 TEST METHODS FOR VOC CONTENT

- 504.1 The VOC content of coatings subject to the provisions of this rule shall be analyzed as prescribed in U.S. EPA Reference Method 24 as found in 40 CFR 60, Appendix A.
- 504.2 The water content of coatings subject to the provisions of this rule shall be analyzed as prescribed in ASTM Method D3792-79.
- 504.3 Measurement of exempt compounds shall be conducted and reported in accordance with ASTM Method D4457-85. For exempt compounds where no reference test method is available, any person requesting the exemption shall provide appropriate alternative test methods approved by the Air Pollution Control Officer and the U.S. EPA.

505 TEST METHODS FOR CAPTURE AND CONTROL EFFICIENCY

- 505.1 Capture efficiency of the emission control system, as specified in Section 302, shall be determined in accordance with the U.S. EPA protocols referenced in 50 CFR 52.741(a)(4)(iii).
- 505.2 Control efficiency, as specified in Section 302, shall be determined by U.S. EPA Reference Methods 25 or 25A as found in 40 CFR Part 60, Appendix A.

RULE 231 INDUSTRIAL, INSTITUTIONAL, AND COMMERCIAL BOILERS, STEAM GENERATORS, AND PROCESS HEATERS

Adopted 10-17-94
(Amended 10-9-97)

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100 GENERAL

101 PURPOSE: To limit the emission of Nitrogen Oxides (NOx) from industrial, institutional and commercial, boilers, steam generators and process heaters.

102 APPLICABILITY:

102.1 Geographic: The provisions of this rule apply to facilities in all of Placer County.

102.2 General: This rule applies to boilers, steam generators, and process heaters with rated heat inputs of equal to or greater than 5 million BTU per hour, used in industrial, institutional, and commercial operations.

103 EXEMPTIONS:

103.1 Exemption, Biomass Boilers: The provisions of this rule do not apply to boilers subject to Rule 232, Biomass Suspension Boilers, or Rule 233, Biomass Boilers.

103.2 Exemption, Cement and Lime Kilns, Glass Melting Furnaces, and Smelters: The provisions of this rule do not apply to cement and lime kilns, glass melting furnaces and smelters.

103.3 Exemption, Direct-Contact Dryers: The provisions of this rule do not apply to dryers in which the material being dried is in direct contact with the products of combustion.

103.4 Exemption, Electric Utility Boilers: The provisions of this rule do not apply to boilers used by electric utilities to generate electricity.

103.5 Exemption, Medical Waste Incinerators: This rule shall not apply to those incinerators which are subject to the requirements of Rule 906, Airborne Toxic Control Measure - Medical Waste Incinerators

103.6 Exemption, Municipal Waste Incinerators: This rule shall not apply to boilers, steam generators, or process heaters whose primary purpose is to burn municipal solid waste, as defined in Section 206.

103.7 Exemption, Nongaseous Fuels: Units subject to the requirements of Section 301 that normally burn only gaseous fuel shall comply with a 150 ppmv, or 0.215 pound per million BTU of heat input, NOx emission limitation when burning nongaseous fuel, if gas is unavailable for purchase. This exemption is limited to not more than 168 hours of operation per calendar year, excluding equipment and emission testing time not exceeding 48 hours per calendar year.

103.8 Exemption, Waste Heat Recovery Boilers: The provisions of this rule do not apply to waste heat recovery boilers that are used to recover sensible heat from the exhaust of combustion turbines.

200 DEFINITIONS

201 ANNUAL HEAT INPUT: The total heat input of fuels burned by a unit in a calendar year, as determined from the higher heating value and cumulative annual usage of each fuel.

202 BOILER OR STEAM GENERATOR: Any combustion equipment fired with any fuel and used to produce steam that is not used exclusively to produce electricity for sale.

203 BRITISH THERMAL UNIT (BTU): The amount of heat required to raise the temperature of one pound of water from 59°F to 60°F at one atmosphere.

204 GAS: Any fuel which is a gas at standard conditions.

- 205 HEAT INPUT:** The chemical heat released due to fuel combustion in a unit, using the higher heating value of the fuel. This does not include the sensible heat of incoming combustion air.
- 206 HIGHER HEATING VALUE (HHV):** The total heat liberated per mass of fuel burned (BTU per pound), when fuel and dry air at standard conditions undergo complete combustion and all resultant products are brought to their standard states at standard conditions. HHV shall be determined by one of the following test methods:
- 206.1 ASTM D 2015-85 for solid fuels; or
- 206.2 ASTM D 240-87 or ASTM D 2382-82 for liquid hydrocarbon fuels; or
- 206.3 ASTM D 1826-88 or ASTM D 1945-81 in conjunction with ASTM D 3588-89 for gaseous fuels.
- 207 MUNICIPAL SOLID WASTE:** Household, commercial/retail, and/or institutional waste. Household waste includes material discarded by single or multiple residential dwellings, hotels, motels, and other similar permanent or temporary housing establishments or facilities. Commercial/retail waste includes material discarded by stores, offices, restaurants, warehouses, non-manufacturing activities at industrial facilities, and other similar establishments or facilities. Institutional waste includes material discarded by schools, hospitals, prisons, and government facilities and other similar establishments or facilities. Municipal solid waste does not include landfill gas or digester gas or other fuels derived from decomposition of municipal solid wastes.
- 208 NO_x EMISSIONS (NO_x):** The sum of nitric oxides and nitrogen dioxide in the flue gas, collectively expressed as nitrogen dioxide (NO₂).
- 209 NONGASEOUS FUEL:** Any fuel which is not a gas at standard conditions.
- 210 PARTS PER MILLION BY VOLUME (PPMV):** The ratio of the number of gas molecules of a given species, or group, to the number of millions of total gas molecules.
- 211 PROCESS HEATER:** Any combustion equipment fired with any fuel, and which transfers heat from combustion gases to water or process streams.
- 212 RATED HEAT INPUT CAPACITY:** The heat input capacity, in million BTU per hour, specified on the nameplate of the combustion unit. If the combustion unit has been altered or modified such that its maximum heat input is different than the heat input capacity specified on the nameplate, the maximum heat input shall be considered as the rated heat input.
- 213 RESPONSIBLE OFFICIAL:** An individual with the authority to certify that a source complies with all applicable requirements, including the conditions of permits issued to sources in accordance with Regulation 5, PERMITS. A "responsible official" means one of the following:
- 213.1 For a corporation, a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:
- a. The facilities employ more than 250 persons or have gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars); or
- b. The delegation of authority to such representative is approved in advance by the Air Pollution Control Officer;
- 213.2 For a partnership or sole proprietorship, a general partner or the proprietor, respectively; or

- 213.3 For a municipality, state, federal, or other public agency, either a principal executive officer or a ranking elected official; or
- 214 STANDARD CONDITIONS:** For purposes of this rule, a gas temperature of 68° Fahrenheit and a gas pressure of 14.7 pounds per square inch absolute.
- 215 THERM:** One hundred thousand (100,000) BTU.
- 216 UNIT:** Any boiler, steam generator or process heater as defined in Sections 202 and 211.

300 STANDARDS

- 301 ANNUAL HEAT INPUTS, 90,000 THERMS:** For units with rated heat inputs of greater than or equal to 5 million BTU per hour and annual heat inputs of greater than or equal to 90,000 therms per year, NOx emissions shall not exceed the following levels:
- 301.1 30 parts per million by volume (ppmv), or 0.036 pound per million BTU of heat input when operated on gas; or
- 301.2 40 parts per million by volume (ppmv), or 0.052 pound per million BTU of heat input, when operated on nongaseous fuel; or
- 301.3 The heat-input weighted average of the limits specified in 301.1 and 301.2, above, when operated on combinations of gas and nongaseous fuels.
- 301.4 Emissions from units subject to this section shall not exceed a carbon monoxide concentration of 400 parts per million by volume (ppmv).
- 302 ANNUAL HEAT INPUTS < 90,000 THERMS:** Units with rated heat inputs of greater than or equal to 5 million BTU per hour and annual heat inputs of less than 90,000 therms per year shall be:
- 302.1 Operated in a manner that maintains stack-gas oxygen concentrations at less than or equal to 3.00 percent by volume on a dry basis; or
- 302.2 Operated with a stack-gas oxygen trim system set at 3.00 percent by volume oxygen. The tolerance of this setting shall be plus or minus (.) five percent (i.e. 2.85 to 3.15 percent by volume oxygen); or
- 302.3 Tuned at least once per year by a technician that is qualified, to the satisfaction of the Air Pollution Control Officer, to perform tuning in accordance with Section 600; or
- 302.4 Operated in compliance with the applicable emission levels specified in Section 301.

303 EQUIPMENT REQUIREMENTS:

- 303.1 For units which simultaneously fire combinations of different fuels, and are subject to the requirements of Section 301, non-resettable totalizing mass flow rate meters shall be installed in each fuel line. Alternatively, non-resettable totalizing volumetric flow rate meters may be installed in conjunction with temperature and pressure meters in each fuel line.
- 303.2 For units which employ flue-gas NOx reducing technology, and are subject to the requirements of Section 301, meters, as applicable, shall be installed to allow instantaneous monitoring of the operational characteristics of the NOx reduction equipment.

400 ADMINISTRATIVE REQUIREMENTS

401 COMPLIANCE SCHEDULE:

- 401.1 By January 1, 1995, any person subject to this rule shall submit a plan containing the following:
- A list of all units with their rated heat inputs and anticipated annual heat inputs.
 - For each unit subject to Section 301, the selected method of achieving compliance with the applicable standards of Section 301.
 - For each unit subject to Section 302, the selected option (one of four specified in Section 302) to achieve compliance with that section.
- 401.2 By May 31, 1995, any Major Source subject to this rule shall demonstrate final compliance with all applicable standards and requirements of Section 300. Subject to the approval of the Air Pollution Control Officer, testing conducted in the 18 months preceding May 31, 1995, may be used to demonstrate compliance provided such testing meets the requirements of Sections 502.1, using the test methods specified in Section 502.3.
- 401.3 By October 17, 1996, any non-Major Source subject to this rule shall submit an application for Authority to Construct for any modifications required to achieve compliance with the requirements of this rule.
- 401.4 By October 17, 1997, any non-Major Source subject to this rule shall demonstrate final compliance with all applicable standards and requirements of this rule.
- 401.5 Any non-Major Source subject to this rule installing a new or replacement boiler shall comply with this rule for the new or replacement boiler effective October 17, 1995.
- 401.6 A violation of the plan required under Section 401.1 shall constitute a violation of this rule.

402 COMPLIANCE DETERMINATION:

- 402.1 Any person subject to this rule shall have the option of complying with either the pounds-per-million-BTU emission rates or the parts-per-million-by-volume emission limits specified in Section 301.
- 402.2 All ppmv emission limits specified in Sections 106 and 301 are referenced at dry stack-gas conditions and 3.00 percent by volume stack-gas oxygen. Emission concentrations shall be corrected to 3.00 percent oxygen as follows:

$$[\text{ppm NO}_x]_{\text{corrected}} = \frac{20.95\% - 3.00\%}{20.95\% - [\% \text{O}_2]_{\text{measured}}} \times [\text{ppm NO}_x]_{\text{measured}}$$
$$[\text{ppm CO}]_{\text{corrected}} = \frac{20.95\% - 3.00\%}{20.95\% - [\% \text{O}_2]_{\text{measured}}} \times [\text{ppm CO}]_{\text{measured}}$$

- 402.3 All pounds-per-million-BTU emission rates shall be calculated as pounds of nitrogen dioxide (NO₂) per million BTU of heat input.

403 COMPLIANCE COSTS: A person operating a unit subject to this rule shall bear all expenses associated with compliance with the monitoring and reporting provisions of this rule.

404 CERTIFICATION: All reports submitted in accordance with this rule shall be signed by a responsible official who shall certify the truth, accuracy, and completeness of the report.

500 MONITORING AND RECORDS

501 FUEL USAGE AND OPERATING HOURS

- 501.1 Any person subject to this rule shall monitor and record for each unit the HHV and cumulative annual usage of each fuel.
- 501.2 The cumulative annual usage of each fuel shall be monitored from utility service meters, purchase, or tank fill records, or by any other acceptable methods approved by the Air Pollution Control Officer.
- 501.3 Any person subject to this rule, but exempt from Section 301 in accordance with Section 106, shall monitor and record for each unit the cumulative hours of operation on each nongaseous fuel. The records shall be updated weekly and made available to the District upon request.

502 SOURCE TESTS

- 502.1 Except for units in compliance with the tuning option of Section 302.3, a source test shall be conducted for all units subject to this rule to demonstrate compliance. A report of this source test shall include the operational characteristics of any flue-gas NOx reduction equipment. Additional source testing may be required by the Air Pollution Control Officer as necessary to ensure compliance with the standards set forth in Sections 301 and 302. Compliance source testing is required on an annual basis for sources subject to Rule 507, FEDERAL OPERATING PERMIT PROGRAM.
- 502.2 All source tests shall be made in the as-found operating condition, except that source tests shall include at least one test conducted at the maximum firing rate allowed by the District permit, and no source test shall be conducted within two hours after a continuous period in which fuel flow to the unit is zero, or shut off, for thirty minutes or longer. A separate source test shall be conducted for each fuel burned including standby fuel.
- 502.3 Compliance with NOx emission requirements and the stack-gas carbon monoxide and oxygen requirements of Section 300 shall be determined using the following test methods:
 - a. Oxides of Nitrogen - ARB Method 100, Title 17, CCR, Section 94114, Procedures for Continuous Emission Stack Sampling.
 - b. Carbon Monoxide - ARB Method 100.
 - c. Stack-Gas Oxygen - ARB Method 100.
 - d. NOx Emission Rate (Heat Input Basis) - EPA Method 19, 40 CFR Part 60, Appendix A.
- 502.4 All emission concentrations and emission rates shall be based on 15-consecutive-minute averages. These averages shall be calculated from no less than five data sets, recorded from samplings on intervals of no greater than three minutes.
- 502.5 Integrated sampling methods for oxides of nitrogen, stack-gas oxygen, and stack-gas carbon monoxide, as approved by the Air Pollution Control Officer, EPA and ARB, may be acceptable for determination of compliance with NOx emission concentration or rate limits.

- 503 TUNING REPORTS:** Units covered under Section 302.3 shall be tuned not less than once every 12 months. Tuning verification reports shall be submitted not less than once every 12

months for each fuel burned. The first tuning verification report shall be submitted by October 17, 1997, for non-Major Sources, and by May 31, 1995, for Major Sources subject to this rule.

- 504 RETENTION OF RECORDS:** All records maintained pursuant to this rule shall be retained for at least three years from date of entry, with the exception that sources subject to the requirements of Rule 507, FEDERAL OPERATING PERMIT PROGRAM, shall retain records at least five years. Records shall be made available for inspection by the Air Pollution Control Officer upon request.

600 TUNING PROCEDURE

- 601 GENERAL:** Nothing in this tuning procedure¹ shall be construed to require any act or omission that would result in unsafe conditions or would be in violation of any regulation or requirement established by Factory Mutual, Industrial Risk Insurers, National Fire Prevention Association, the California Department of Industrial Relations (Occupational Safety and Health Division), the Federal Occupational Safety and Health Administration, or other relevant regulations and requirements.

602 PROCEDURES:

- 601.1 Operate the unit at the firing rate most typical of normal operation. If the unit experiences significant load variations during normal operations, operate the unit at its average firing rate.
- 601.2 At the firing rate established in Section 601.1, record stack-gas temperatures, oxygen concentration, and CO concentration (for gaseous fuels) or smoke-spot number² (for liquid fuels), and observe flame conditions after unit operation stabilizes at the selected firing rate. If the excess oxygen in the stack-gas is at the lower range of typical minimum values³, and if CO emissions are low and there is no smoke, the unit is probably operating at near optimum efficiency - at this particular firing rate. However, complete the remaining portion of this procedure to determine whether still lower oxygen levels are practical.
- 602.3 Increase combustion air flow until the stack-gas oxygen levels increase by one or two percent over the level measured in Section 602.2. As in Section 602.2, record the stack-gas temperature, CO concentration (for gaseous fuels) or smoke-spot number (for liquid fuels), and observe flame conditions for these higher oxygen levels after unit operation stabilizes.
- 602.4 Decrease combustion air flow until the stack-gas oxygen is at the level measured in Section 602.2. From this level gradually reduce the combustion air flow, in small increments. After each increment, record the stack-gas temperature, oxygen concentration, CO concentration (for gaseous fuels), and smoke-spot number (for liquid fuels). Also, observe the flame and record any changes in its condition.
- 602.5 Continue to reduce combustion air flow stepwise, until one of the following limits is reached:
- a. Unacceptable flame conditions - such as flame impingement on furnace walls or burner parts, excessive flame carryover, or flame instability;

¹ THIS TUNING PROCEDURE IS BASED ON A PROCEDURE DEVELOPED BY KVB, INC. FOR THE U.S. EPA.

² THE SMOKE-SPOT NUMBER CAN BE DETERMINED WITH ASTM TEST METHOD D-2156 OR WITH THE BACHARACH METHOD. THE BACHARACH METHOD IS INCLUDED IN A TUNE-UP KIT THAT CAN BE PURCHASED FROM THE BACHARACH COMPANY.

³ TYPICAL MINIMUM OXYGEN LEVELS FOR UNITS AT HIGH FIRING RATES ARE:
A. FOR NATURAL GAS: 0.5 - 3%
B. FOR LIQUID FUELS: 2 - 4%.

- b. Stack-gas CO concentrations greater than 400 ppm;
 - c. Smoking at stack;
 - d. Equipment-related limitations - such as low windbox/furnace pressure differential, built-in air-flow limits, etc.
- 602.6 Develop an O₂/CO curve (for gaseous fuels) or O₂/smoke curve (for liquid fuels) similar to those shown in Figures 1 and 2 using the excess oxygen and CO or smoke-spot number data obtained at each combustion air flow setting.
- 602.7 From the curves prepared in Section 602.6, find the stack-gas oxygen levels where the CO emissions or smoke-spot number equal the following values:

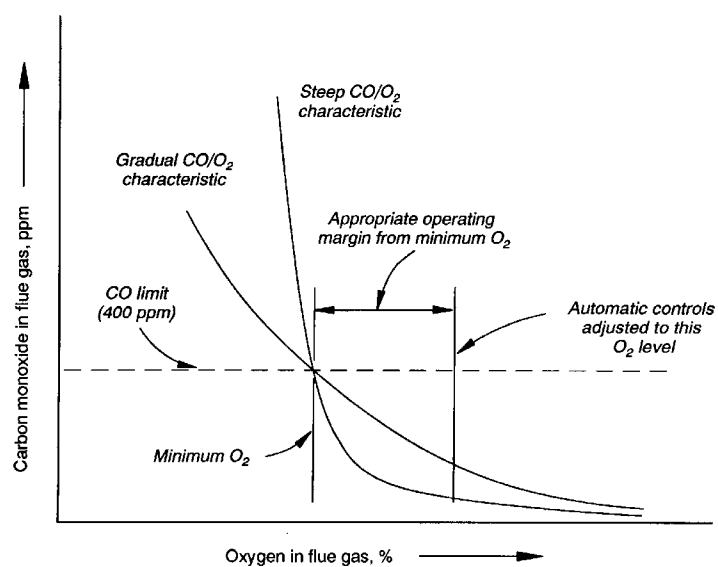
Fuel	Measurement	Value
Gaseous	CO Emissions	400 PPM
#1 & #2 Oils	Smoke Spot Number	Number 1
#4 Oil	Smoke Spot Number	Number 2
#5 Oil	Smoke Spot Number	Number 3
Other Oils	Smoke Spot Number	Number 4

The above conditions are referred to as the CO or smoke-spot thresholds, or as the minimum excess oxygen levels. Compare this minimum value of excess oxygen to the expected value provided by the combustion unit manufacturer. If the minimum level found is substantially higher than the value provided by the manufacturer, burner adjustments can probably be made to improve fuel and air mix, thereby allowing operations with less air.

- 602.8 Add 0.5 to 2.0 percent to the minimum excess oxygen level found in Section 602.7 and reset burner controls to operate automatically at this higher stack-gas oxygen level. This margin above the minimum oxygen level accounts for fuel variations, variations in atmospheric conditions, load changes, and non-repeatability or play in automatic controls.
- 602.9 If the load of the combustion unit varies significantly during normal operation, repeat Sections 602.1-602.8 for the firing rates that represent the upper and lower limits of the range of the load. Because control adjustments at one firing rate may affect conditions at other firing rates, it may not be possible to establish the optimum excess oxygen level at all firing rates. If this is the case, choose the burner control settings that give the best performance over the range of the firing rates. If one firing rate predominates, the setting should optimize the conditions at the rate.
- 602.10 Verify that the new settings can accommodate the sudden load changes that may occur in daily operation without adverse effects. Do this by increasing and decreasing load rapidly while observing the flame and stack. If any of the conditions in Section 602.5 result, reset the combustion controls to provide a slightly higher level of excess oxygen at the affected firing rates. Next, verify these new settings in a similar fashion. Then make sure that the final control settings are recorded at steady-state operating conditions for future reference.

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Figure 1

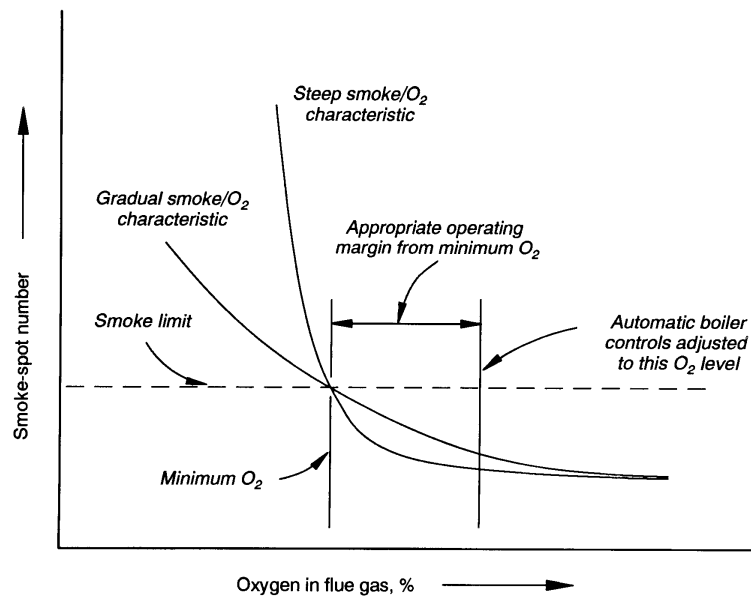


SOURCE: KVB INC.

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Figure 2 Oxygen(O_2)/Smoke Characteristic Curve

SOURCE: KVB INC.



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RULE 232 BIOMASS SUSPENSION BOILERS

Adopted 10-6-94
(Amended 12-9-99)

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100 GENERAL

- 101 APPLICABILITY:** This rule applies to biomass suspension boilers and steam generators which have a potential to emit, as defined in Rule 502, New Source Review, 25 tons or more of NO_x emissions; which have a primary energy source of biomass from a medium density fiberboard plant consisting of a minimum of 25 percent of the total annual heat input; and which use suspension-type burners.
- 102 FEDERAL REGULATIONS:** Compliance with this rule shall not exempt a person from complying with any federal regulation promulgated pursuant to the Clean Air Act (42 U.S.C. Section 7401 et seq.).
- 103 EXEMPTION, BOILERS, STEAM GENERATORS, AND PROCESS HEATERS:** This rule shall not apply to boilers, steam generators, and process heaters subject to Rule 231, INDUSTRIAL, INSTITUTIONAL, AND COMMERCIAL BOILERS, STEAM GENERATORS, AND PROCESS HEATERS.
- 104 EXEMPTION, BIOMASS BOILERS:** This rule shall not apply to boilers and steam generators subject to Rule 233, BIOMASS BOILERS.
- 105 EXEMPTION, MUNICIPAL SOLID WASTE:** This rule shall not apply to combustion units whose primary purpose is to burn municipal solid waste, as defined in Section 207.
- 106 EXEMPTION, WASTE HEAT RECOVERY BOILERS:** This rule shall not apply to waste heat recovery boilers used to recover sensible heat from the exhaust of combustion turbines or unfired waste heat recovery boilers used to recover sensible heat from the exhaust of any combustion equipment.

200 DEFINITIONS

- 201 BIOMASS:** Any organic material not derived from fossil fuels, such as agricultural crop residues, bark, lawn, yard and garden clippings, leaves, silvicultural residue, tree and brush pruning, wood and wood chips, and wood waste, including these materials when separated from other waste streams. Biomass does not include material containing sewage sludge, industrial sludge, medical waste, hazardous waste, or radioactive waste.
- 202 BIOMASS SUSPENSION BOILER OR STEAM GENERATOR:** Any combustion equipment used in any industrial, institutional, or commercial operation which uses a suspension-type burner to combust biomass to produce steam, heat water or other fluids, and/or produce electricity.
- 203 BRITISH THERMAL UNIT (BTU):** The amount of heat required to raise the temperature of one pound of water from 59 °F to 60 °F at one atmosphere.
- 204 HEAT INPUT:** The chemical heat released due to fuel combustion in a boiler, using the higher heating value of the fuel. This does not include the sensible heat of incoming combustion air.
- 205 HIGHER HEATING VALUE (HHV):** The total heat liberated per mass of fuel burned (BTU per pound), when fuel and dry air at standard conditions undergo complete combustion and all resultant products are brought to their standard states at standard conditions. HHV shall be determined by one of the following test methods:

205.1 ASTM D 2015-85 for solid fuels; or

205.2 ASTM D 240-87 or ASTM D 2382-82 for liquid hydrocarbon fuels; or

- 205.3 ASTM D 1826-88 or ASTM D 1945-81 in conjunction with ASTM D 3588-89 for gaseous fuels.
- 206 MEDIUM DENSITY FIBERBOARD PLANT:** A plant that manufactures medium density fiberboard consisting of a composite wood product created from digested and refined wood fibers bonded with urea-formaldehyde resin.
- 207 MUNICIPAL SOLID WASTE:** Household, commercial/retail, and/or institutional waste. Household waste includes material discarded by single or multiple residential dwellings, hotels, motels, and other similar permanent or temporary housing establishments or facilities. Commercial/retail waste includes material discarded by stores, offices, restaurants, warehouses, non-manufacturing activities at industrial facilities, and other similar establishments or facilities. Institutional waste includes material discarded by schools, hospitals, prisons, and government facilities and other similar establishments or facilities.
- 208 NO_x EMISSIONS:** The sum of nitric oxides and nitrogen dioxide in the flue gas, collectively expressed as nitrogen dioxide (NO₂).
- 209 PARTS PER MILLION BY VOLUME (PPMV):** The ratio of the number of gas molecules of a given species, or group, to the number of millions of total gas molecules.
- 210 RATED HEAT INPUT CAPACITY:** The heat input capacity, in million BTU per hour, specified on the nameplate of the combustion unit. If the combustion unit has been altered or modified such that its maximum heat input is different than the input capacity specified on the nameplate, and this alteration or modification has been approved by the Air Pollution Control Officer and made a limiting condition of operation, then the new maximum heat input shall be considered as the rated heat input capacity.
- 211 RESPONSIBLE OFFICIAL:** An individual with the authority to certify that a source complies with all applicable requirements, including the conditions of permits issued to sources in accordance with Regulation 5, PERMITS. A "responsible official" means one of the following:
- 211.1 For a corporation, a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:
 - a. The facilities employ more than 250 persons or have gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars); or
 - b. The delegation of authority to such representative is approved in advance by the Air Pollution Control Officer;
 - 211.2 For a partnership or sole proprietorship, a general partner or the proprietor, respectively; or
 - 211.3 For a municipality, state, federal, or other public agency, either a principal executive officer or a ranking elected official; or
 - 211.4 For an acid rain unit subject to Title IV (Acid Deposition Control) of the Clean Air Act, the "responsible official" is the designated representative of that unit for any purposes under Title IV and Rule 507, FEDERAL OPERATING PERMITS PROGRAM.

- 212 SHUTDOWN:** The period of time a unit is cooled from its normal operating temperature to cold or ambient temperature.
- 213 STARTUP:** The period of time a unit is heated from cold or ambient temperature to its normal operating temperature as specified by the manufacturer.
- 214 SUSPENSION-TYPE BURNER:** A burner in which solid fuel, in particle form, is combusted in suspension in air.
- 215 UNIT:** Any biomass suspension boiler or steam generator as defined in Sections 202.
- 216 WOOD:** Wood, wood residue, bark, or any derivative fuel or residue thereof, in any form, including but not limited to sawdust, sanderdust, wood chips, scraps, slabs, millings, shavings, and processed pellets made from wood or other forest residues.

300 STANDARDS

301 LIMITATIONS:

- 301.1 The nitrogen oxide emissions into the atmosphere from a biomass suspension boiler or steam generator shall not exceed 568 ppmv corrected to 12 percent by volume stack gas CO₂ on a three-hour average dry basis.
- 301.2 The carbon monoxide emissions into the atmosphere from a biomass suspension boiler or steam generator shall not exceed 400 ppmv corrected to 12 percent by volume stack gas CO₂ on a three-hour average dry basis.

400 ADMINISTRATIVE REQUIREMENTS

- 401 COMPLIANCE SCHEDULE:** Full compliance with all applicable standards and requirements of Section 300 and the Continuous Emissions Monitoring System requirements of Section 502 is required upon adoption of this Rule.
- 402 OPERATION AND MAINTENANCE PLAN:** Any person installing an emission control device as a means of complying with the emission limitations of Section 301 shall submit an Operation and Maintenance Plan with the application for Authority to Construct for the emission control device.
- 402.1 The Operation and Maintenance Plan shall specify:
- a. Operation and maintenance procedures that will demonstrate continuous operation of the emission control device during emission-producing operations; and
 - b. Records that must be kept to document the operation and maintenance procedures.
- 402.2 The records must comply with Sections 501, 502, and 505.
- 402.3 The Operation and Maintenance Plan shall be implemented upon approval by the Air Pollution Control Officer.
- 402.4 Subsequent to the construction of any emission control device used for demonstrating compliance with the emission limitation of Section 301, an Operation and Maintenance Plan shall be submitted or resubmitted in conjunction with any

changes in the procedures addressed in the plan, or upon the request of the Air Pollution Control Officer.

403 COMPLIANCE COSTS: A person operating a unit subject to this rule shall bear all expenses associated with compliance with the monitoring and reporting provisions of this rule.

404 CERTIFICATION: All reports submitted in accordance with this rule shall be signed by a responsible official who shall certify the truth, accuracy, and completeness of the report.

500 MONITORING AND RECORDS

501 RECORDKEEPING: A person operating a unit subject to this rule shall keep the following records for each unit:

501.1 Calendar date of record.

501.2 Number of hours the unit is operated during each day.

501.3 Boiler load.

501.4 Fuel types, including supplementary gaseous or liquid fuels.

501.5 Duration of startups and shutdowns.

501.6 Type and duration of maintenance and repairs.

501.7 Results of compliance tests.

501.8 Three-hour average NO_x emission concentration (expressed as NO₂ and corrected to 12 percent by volume stack gas CO₂).

501.9 Three-hour average CO emission concentration (corrected to 12 percent by volume stack gas CO₂).

501.10 Identification of time periods during which NO_x and CO emission limitations are exceeded, the reason for the exceedance, and a description of corrective action taken.

501.11 Identification of time periods during which operating condition and pollutant emission data were not obtained, the reason for not obtaining this information, and a description of corrective action taken.

502 CONTINUOUS EMISSIONS MONITORING

502.1 A person operating a unit subject to this rule shall install, calibrate, operate, and maintain a Continuous Emissions Monitoring System (CEMS) in accordance with applicable requirements of Appendices B and F of Title 40 Code of Federal Regulations Part 60 (40 CFR 60).

502.2 The CEMS shall include equipment that measures and records the following:

a. Continuous exhaust gas NO_x and CO concentrations corrected to 12 percent by volume stack gas CO₂ dry basis.

b. Average NO_x and CO concentrations calculated on a three-hour average basis.

502.3 A person operating a CEMS shall submit an excess emissions and monitoring systems performance report to the Air Pollution Control Officer within 30 days after the end of each calendar quarter in accordance with 40 CFR 60, Section 60.7(c) and (d) and Section 60.13.

502.4 A relative accuracy test audit (RATA) is required each calendar year.

502.5 The enhanced monitoring requirements of Sections 113 and 114 of the Federal Clean Air Act shall take precedence over the requirements of this Section for facilities subject to Rule 507, FEDERAL OPERATING PERMIT PROGRAM.

503 COMPLIANCE TEST

503.1 A person who operates a unit subject to this rule shall conduct an annual compliance test.

a. Each emission test run shall be conducted while the unit is operated within 10% of the rated heat input capacity. No emission test shall be conducted during startup, shutdown, or under breakdown conditions for the purpose of the initial compliance test.

b. The compliance test shall be conducted for NO_x and CO using the test methods specified in Section 504.

503.2 At least sixty (60) days prior to the compliance test, a written test plan detailing the test methods and procedures to be used shall be submitted for approval by the Air Pollution Control Officer. The plan shall cite the test methods to be used for the determination of compliance with the emission limitations of this rule. The plan shall provide the proposed procedures for the characterization of the representative biomass materials to be burned during testing.

504 TEST METHODS - A person conducting source tests in accordance with Section 503 shall use the following test methods:

504.1 Nitrogen Oxides (NO_x): ARB Test Method 100, Title 17, CCR, Section 94114, Procedures for Continuous Emission Stack Sampling, or EPA Test Method 7E, 40 CFR 60, Appendix A. A violation determined by any of these test methods shall constitute a violation of this rule

504.2 Carbon Monoxide (CO): ARB Test Method 10, Title 17, CCR, Section 94109, Determination of Carbon Monoxide Emissions from Stationary Sources, or ARB Test Method 100, or EPA Test Method 10, 40 CFR 60, Appendix A. A violation determined by any of these test methods shall constitute a violation of this rule.

504.3 Carbon Dioxide (CO₂): ARB Test Method 100, or EPA Test Method 3A.

505 DURATION OF RECORDS: All records maintained pursuant to this rule shall be retained for at least two years from date of entry, with the exception that sources subject to the requirements of Rule 507, FEDERAL OPERATING PERMIT PROGRAM, shall retain records at least five years. Records shall be made available for inspection by the Air Pollution Control Officer upon request.

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RULE 233 BIOMASS BOILERS

Adopted 10-06-94

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100 GENERAL

- 101 APPLICABILITY:** This rule applies to boilers and steam generators which have a potential to emit, as defined in Rule 502, NEW SOURCE REVIEW, 25 tons or more of NO_x emissions and which have a primary energy source of biomass consisting of a minimum of 75 percent of the total annual heat input.
- 102 FEDERAL REGULATIONS:** Compliance with this rule shall not exempt a person from complying with any federal regulation promulgated pursuant to the Clean Air Act (42 U.S.C. Section 7401 et seq.).
- 103 EXEMPTION, BOILERS, STEAM GENERATORS, AND PROCESS HEATERS:** This rule shall not apply to boilers, steam generators, and process heaters subject to Rule 231, INDUSTRIAL, INSTITUTIONAL, AND COMMERCIAL BOILERS, STEAM GENERATORS, AND PROCESS HEATERS.
- 104 EXEMPTION, BIOMASS SUSPENSION BOILERS:** This rule shall not apply to existing boilers and steam generators subject to Rule 232, BIOMASS SUSPENSION BOILERS.
- 105 EXEMPTION, MUNICIPAL SOLID WASTE:** This rule shall not apply to combustion units whose primary purpose is to burn municipal solid waste, as defined in Section 206.
- 106 EXEMPTION, WASTE HEAT RECOVERY BOILERS:** The provisions of this rule do not apply to waste heat recovery boilers used to recover sensible heat from the exhaust of combustion turbines or unfired waste heat recovery boilers used to recover sensible heat from the exhaust of any combustion equipment.

200 DEFINITIONS

- 201 BIOMASS:** Any organic material not derived from fossil fuels, such as agricultural crop residues, bark, lawn, yard and garden clippings, leaves, silvicultural residue, tree and brush pruning, wood and wood chips, and wood waste, including these materials when separated from other waste streams. Biomass does not include material containing sewage sludge, industrial sludge, medical waste, hazardous waste, or radioactive waste.
- 202 BIOMASS BOILER OR STEAM GENERATOR:** Any combustion equipment used in any industrial, institutional, or commercial operation designed to burn biomass to produce steam, heat water or other fluids, and/or produce electricity.
- 203 BRITISH THERMAL UNIT (BTU):** The amount of heat required to raise the temperature of one pound of water from 59 °F to 60 °F at one atmosphere.
- 204 HEAT INPUT:** The chemical heat released due to fuel combustion in a boiler, using the higher heating value of the fuel. This does not include the sensible heat of incoming combustion air.
- 205 HIGHER HEATING VALUE (HHV):** The total heat liberated per mass of fuel burned (BTU per pound), when fuel and dry air at standard conditions undergo complete combustion and all resultant products are brought to their standard states at standard conditions. HHV shall be determined by one of the following test methods:
- 205.1 ASTM D 2015-85 for solid fuels; or
- 205.2 ASTM D 240-87 or ASTM D 2382-82 for liquid hydrocarbon fuels; or

- 205.3 ASTM D 1826-88 or ASTM D 1945-81 in conjunction with ASTM D 3588-89 for gaseous fuels.
- 206 MUNICIPAL SOLID WASTE:** Household, commercial/retail, and/or institutional waste. Household waste includes material discarded by single or multiple residential dwellings, hotels, motels, and other similar permanent or temporary housing establishments or facilities. Commercial/retail waste includes material discarded by stores, offices, restaurants, warehouses, non-manufacturing activities at industrial facilities, and other similar establishments or facilities. Institutional waste includes material discarded by schools, hospitals, prisons, and government facilities and other similar establishments or facilities.
- 207 NO_x EMISSIONS:** The sum of nitric oxides and nitrogen dioxide in the flue gas, collectively expressed as nitrogen dioxide (NO₂).
- 208 PARTS PER MILLION BY VOLUME (PPMV):** The ratio of the number of gas molecules of a given species, or group, to the number of millions of total gas molecules.
- 209 RATED HEAT INPUT CAPACITY:** The heat input capacity, in million BTU per hour, specified on the nameplate of the combustion unit. If the combustion unit has been altered or modified such that its maximum heat input is different than the input capacity specified on the nameplate, and this alteration or modification has been approved by the Air Pollution Control Officer and made a limiting condition of operation, then the new maximum heat input shall be considered as the rated heat input capacity.
- 210 RESPONSIBLE OFFICIAL:** An individual with the authority to certify that a source complies with all applicable requirements, including the conditions of permits issued to sources in accordance with Regulation 5, PERMITS. A "responsible official" means one of the following:
- 210.1 For a corporation, a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:
 - a. The facilities employ more than 250 persons or have gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars); or
 - b. The delegation of authority to such representative is approved in advance by the Air Pollution Control Officer;
 - 210.2 For a partnership or sole proprietorship, a general partner or the proprietor, respectively; or
 - 210.3 For a municipality, state, federal, or other public agency, either a principal executive officer or a ranking elected official; or
 - 210.4 For an acid rain unit subject to Title IV (Acid Deposition Control) of the Clean Air Act, the "responsible official" is the designated representative of that unit for any purposes under Title IV and Rule 507, FEDERAL OPERATING PERMITS PROGRAM.
- 211 SHUTDOWN:** The period of time a unit is cooled from its normal operating temperature to cold or ambient temperature.
- 212 STARTUP:** The period of time a unit is heated from cold or ambient temperature to its normal operating temperature as specified by the manufacturer.

213 UNIT: Any biomass boiler or steam generator as defined in Sections 202.

214 WOOD: Wood, wood residue, bark, or any derivative fuel or residue thereof, in any form, including but not limited to sawdust, sanderdust, wood chips, scraps, slabs, millings, shavings, and processed pellets made from wood or other forest residues.

300 STANDARDS

301 LIMITATIONS:

- 301.1 No person shall allow the discharge of NO_x emissions into the atmosphere from a biomass boiler or steam generator in excess of the following standards, whichever is less stringent:
- a. An exhaust concentration of 115 parts per million (ppmv) corrected to 12 percent by volume stack gas carbon dioxide (CO₂) on a three-hour average dry basis.
 - b. 50 percent of the uncontrolled NO_x emission concentration in the exhaust gas stream. A corresponding controlled concentration limit, expressed in ppmv corrected to 12 percent by volume stack gas CO₂ on a three-hour average dry basis, shall be established in a Permit to Operate for the purpose of demonstrating continuous compliance with the 50 percent emission reduction.
- 301.2 A person operating a biomass boiler or steam generator subject to this rule shall establish a carbon monoxide (CO) emission limitation that represents good operating and combustion practices. No person shall allow the discharge of CO into the atmosphere in excess of 120 percent of the CO exhaust concentration established by an initial compliance test conducted in accordance with Section 503. The CO concentration in ppmv shall be corrected to 12 percent by volume stack gas CO₂ on a 3-hour average dry basis.

400 ADMINISTRATIVE REQUIREMENTS

401 COMPLIANCE SCHEDULE

- 401.1 Any person operating a unit subject to this rule shall demonstrate full compliance with the emission limitations of Section 300 by May 31, 1995. Subject to the approval of the Air Pollution Control Officer, testing conducted in the 18 months preceding May 31, 1995, may be used to demonstrate compliance provided such testing meets the requirements of Sections 503.1 or Section 503.2, using the test methods specified in Section 504.
- 401.2 Any person operating a unit subject to this rule shall demonstrate compliance with the continuous emissions monitoring requirements of Section 502 in accordance with the following schedule:
- a. By April 6, 1995, submit plans and specifications for the Continuous Emissions Monitoring System, including milestones for installation and certification of the proposed system.
 - b. By October 6, 1996, achieve full compliance with all requirements of Section 502. Full compliance shall be achieved no later than 60 days after installation of the Continuous Emissions Monitoring System.

402 OPERATION AND MAINTENANCE PLAN: Any person installing an emission control device as a means of complying with the emission limitations of Section 301 shall submit an Operation and Maintenance Plan with the application for Authority to Construct for the emission control device.

402.1 The Operation and Maintenance Plan shall specify:

- a. Operation and maintenance procedures that will demonstrate continuous operation of the emission control device during emission-producing operations; and
- b. Records that must be kept to document the operation and maintenance procedures.

402.2 The records must comply with Sections 501, 502, and 505.

402.3 The Operation and Maintenance Plan shall be implemented upon approval by the Air Pollution Control Officer.

402.4 Subsequent to the construction of any emission control device used for demonstrating compliance with the emission limitation of Section 301, a Operation and Maintenance Plan shall be submitted or resubmitted in conjunction with any changes in the procedures addressed in the plan, or upon the request of the Air Pollution Control Officer.

403 COMPLIANCE COSTS: A person operating a unit subject to this rule shall bear all expenses associated with compliance with the monitoring and reporting provisions of this rule.

404 CERTIFICATION: All reports submitted in accordance with this rule shall be signed by a responsible official who shall certify the truth, accuracy, and completeness of the report.

500 MONITORING AND RECORDS

501 RECORDKEEPING: A person operating a unit subject to this rule shall keep the following records for each unit:

501.1 Calendar date of record.

501.2 Number of hours the unit is operated during each day.

501.3 Boiler load.

501.4 Fuel types, including supplementary gaseous or liquid fuels.

501.5 Duration of startups and shutdowns.

501.6 Type and duration of maintenance and repairs.

501.7 Results of compliance tests.

501.8 Three-hour average NO_x emission concentration (expressed as NO₂ and corrected to 12 percent by volume stack gas CO₂).

501.9 Three-hour average CO emission concentration (corrected to 12 percent by volume stack gas CO₂).

- 501.10 Identification of time periods during which NO_x and CO emission limitations are exceeded, the reason for the exceedance, and a description of corrective action taken.
- 501.11 Identification of time periods during which operating condition and pollutant emission data were not obtained, the reason for not obtaining this information, and a description of corrective action taken.

502 CONTINUOUS EMISSIONS MONITORING

- 502.1 By the compliance date in Section 401.2, a person operating a unit subject to this rule shall install, calibrate, operate, and maintain a Continuous Emissions Monitoring System (CEMS) in accordance with applicable requirements of Appendices B and F of Title 40 Code of Federal Regulations Part 60 (40 CFR 60).
- 502.2 The CEMS shall include equipment that measures and records the following:
- a. Continuous exhaust gas NO_x and CO concentrations corrected to 12 percent by volume stack gas CO₂ dry basis.
 - b. Average NO_x and CO concentrations calculated on a three-hour average basis.
- 502.3 A person operating a CEMS shall submit an excess emissions and monitoring systems performance report to the Air Pollution Control Officer within 30 days after the end of each calendar quarter in accordance with 40 CFR 60, Section 60.7(c) and (d) and Section 60.13.
- 502.4 The enhanced monitoring requirements of Sections 113 and 114 of the Federal Clean Air Act shall take precedence over the requirements of this Section for facilities subject to Rule 507, FEDERAL OPERATING PERMIT PROGRAM.

503 INITIAL COMPLIANCE TEST

- 503.1 A person who elects to comply with the limitation specified in Section 301.1.a shall conduct an initial compliance test no later than the applicable final compliance date in Section 401.1. The source test shall also be used to establish the CO limitation in accordance with Section 301.2.
- a. Each emission test run shall be conducted while the unit is operated within 10% of the rated heat input capacity. No emission test shall be conducted during startup, shutdown, or under breakdown conditions for the purpose of the initial compliance test.
 - b. The initial compliance test shall be conducted for NO_x and CO using the test methods specified in Section 504.
- 503.2 A person who chooses to comply with the limitation specified in Section 301.1.b shall conduct an initial compliance test no later than the applicable final compliance date in Section 401.1. The source test shall also be used to establish the CO limitation in accordance with Section 301.2.
- a. Each emission test run shall be conducted while the unit is operated within 10% of the rated heat input capacity. No emission test shall be conducted during startup, shutdown, or under breakdown conditions for the purpose of the initial compliance test.

- b. The initial compliance test shall be conducted for NO_x and CO using the test methods specified in Section 504.
- c. The 50 percent NO_x emission reduction specified in Section 301.1.b shall be calculated based on the pre- and post-controlled NO_x concentration corrected to 12 percent by volume stack gas CO₂. The pre-controlled concentration to be used in demonstrating the 50 percent reduction shall be obtained using the test methods specified in Section 504. The pre-controlled concentration shall be submitted to the Air Pollution Control Officer in the application for Authority to Construct specified in Section 401.2 or in a previously submitted application for Authority to Construct for an existing unit.

503.3 At least sixty (60) days prior to the initial compliance test, a written test plan detailing the test methods and procedures to be used shall be submitted for approval by the Air Pollution Control Officer. The plan shall cite the test methods to be used for the determination of compliance with the emission limitations of this rule. The plan shall provide the proposed procedures for the characterization of the representative biomass materials to be burned during testing.

504 TEST METHODS: A person conducting source tests in accordance with Section 503 shall use the following test methods:

504.1 Nitrogen Oxides (NO_x): ARB Test Method 100, Title 17, CCR, Section 94114, Procedures for Continuous Emission Stack Sampling, or EPA Test Method 7E, 40 CFR 60, Appendix A. A violation determined by any of these test methods shall constitute a violation of this rule.

504.2 Carbon Monoxide (CO): ARB Test Method 10, Title 17, CCR, Section 94109, Determination of Carbon Monoxide Emissions from Stationary Sources, or ARB Test Method 100, or EPA Test Method 10, 40 CFR 60, Appendix A. A violation determined by any of these test methods shall constitute a violation of this rule.

504.3 Carbon Dioxide (CO₂): ARB Test Method 100, Title 17, CCR, Section 94114, Procedures for Continuous Emission Stack Sampling, or EPA Test Method 3A, 40 CFR 60, Appendix A.

505 CORRECTION OF EMISSION CONCENTRATIONS: NO_x and CO concentrations may be corrected to 8 percent by volume stack gas O₂ instead of 12 percent by volume stack gas CO₂ if approved by the Air Pollution Control Officer in a Permit to Operate.

506 DURATION OF RECORDS: All records maintained pursuant to this rule shall be retained for at least two years from date of entry, with the exception that sources subject to the requirements of Rule 507, FEDERAL OPERATING PERMIT PROGRAM, shall retain records at least five years. Records shall be made available for inspection by the Air Pollution Control Officer upon request.

RULE 234 AUTOMOTIVE REFINISHING OPERATIONS

Adopted 11-03-94
(Amended 8-24-95, 8-8-96, 4-9-98)

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100 GENERAL

- 101 PURPOSE:** To limit the emission of volatile organic compounds from finishing or refinishing of Group I and Group II Vehicles and Equipment as defined in this rule.
- 102 APPLICABILITY:** The provisions of this rule apply only to facilities located in the Sacramento Valley Air Basin portion of Placer County, as defined by California Code of Regulations, Title 17, Division 3, Chapter 1, Subchapter 1.5, Article 1, Section 60106.
- 103 EXEMPTION FROM RULE 219:** The provisions of Rule 219, Organic Solvents, shall not apply to the refinishing of vehicles and equipment as defined in Rule 234.
- 104 EXEMPTION, TOUCH-UP:** The provisions of this rule shall not apply to touch-up operations.
- 105 EXEMPTION, GRAPHIC DESIGN APPLICATION:** The provisions of this rule shall not apply to application of graphic designs.
- 106 EXEMPTION, MILITARY VEHICLES AND GROUND SUPPORT EQUIPMENT:** The provisions of this rule shall not apply to the coating of military vehicles and ground support equipment.
- 107 EXEMPTION, RADIATORS:** The provisions of this rule shall not apply to the coating of radiators and engine parts.
- 108 EXEMPTION, AEROSOL PAINT PRODUCTS:** The provisions of this rule shall not apply to the application of aerosol paint products from non-refillable aerosol containers having a capacity of one liter (34 fluid ounces), or less.
- 109 LIMITED EXEMPTION, SELF-CONTAINED COATING APPLICATION:** The provisions of Section 302, shall not apply to the application of high viscosity or thixotropic coatings with application equipment that is supplied with and is an integral part of the coating container.
- 110 LIMITED EXEMPTION, SMALL PRODUCTION/UTILITY BODIES:** The provisions of Section 301, shall not apply to coatings applied to small production and utility bodies that must match the vehicles upon which they will be mounted. When production is less than or equal to 20 vehicles per day, any coating with a VOC content not in excess of the standards set forth in Section 301.1 can be used. If production is greater than 20 vehicles per day, any coating with a VOC content not in excess of the standards set forth in Section 301.2 can be used. Daily records shall be maintained on the number of utility bodies coated each day and such records shall be retained for the previous five (5) year period and be available at the time of inspection.

200 DEFINITIONS

- 201 AEROSOL PAINT PRODUCT:** A coating product containing pigments or resins that dispenses product ingredients by means of a propellant, and is packaged in a non-refillable can for hand-held application.
- 202 ANTIGLARE/SAFETY COATING:** A coating which minimizes light reflection for safety purposes.
- 203 CAMOUFLAGE COATING:** A coating applied on motor vehicles to conceal such vehicles from detection.
- 204 CAPTURE EFFICIENCY:** The fraction, in percent, of all VOC's generated by a process that are directed to an abatement or recovery device.
- 205 CONTROL EFFICIENCY:** The fraction, in percent, of pollution prevented by a control device and the pollution introduced to the control device.

Where:

$$G_{voc} = \frac{(W_s - W_w - W_{es})}{(V_m - V_w - V_{es})}$$

G_{voc}	=	Grams VOC per liter of coating excluding water and exempt compounds.
W_s	=	Weight of volatile compounds in grams.
W_w	=	Weight of water in grams.
W_{es}	=	Weight of exempt compounds in grams.
V_m	=	Volume of material in liters.
V_w	=	Volume of water in liters.
V_{es}	=	Volume of exempt compounds (as defined in Rule 102, <u>Definitions</u>), in liters.

- 206 CATALYST:** A substance whose presence initiates the reaction between chemical compounds.
- 207 COATING:** A material which is applied to a surface and which forms a film in order to beautify and/or protect such surface.
- 208 COLOR MATCH:** The ability of a repair coating to blend into an existing coating so that color difference is not visible.
- 209 ELECTROSTATIC APPLICATION:** The application of charged atomized paint droplets which are deposited by electrostatic attraction.
- 210 EXEMPT COMPOUNDS:** For the purpose of this Rule, exempt compounds are as defined in Rule 102, Definitions.
- 211 FINISHING:** The coating of incomplete vehicles, their parts and components, or mobile equipment for which the original coating was not applied from an Original Equipment Manufacturing (OEM) plant coating assembly line.
- 212 GRAMS OF VOC PER LITER OF COATING EXCLUDING WATER AND EXEMPT COMPOUNDS:** The weight of VOC per combined volume of VOC and coating solids. It can be calculated by the following equation:

$$G_{voc} = \frac{(W_s - W_w - W_{es})}{(V_m - V_w - V_{es})}$$

Where:

G_{voc}	=	Grams VOC per liter of coating excluding water and exempt compounds.
W_s	=	Weight of volatile compounds in grams.
W_w	=	Weight of water in grams.
W_{es}	=	Weight of exempt compounds in grams.
V_m	=	Volume of material in liters.
V_w	=	Volume of water in liters.
V_{es}	=	Volume of exempt compounds (as defined in Rule 102, <u>Definitions</u>), in liters.

- 213 GRAMS OF VOC PER LITER OF MATERIAL:** The weight of VOC per volume of material. It can be calculated by the following equation:

$$\text{Grams of VOC per Liter of Material} = \frac{W_s - W_w - W_{ec}}{V_m}$$

Where:

Ws = Weight of volatile compounds in grams
Ww = Weight of water in grams
Wec = Weight of exempt compounds in grams
Vm = Volume of material in liters

- 214 GRAPHIC DESIGN APPLICATION:** The application of logos, letters, numbers and graphics to a painted surface, with or without the use of a template.
- 215 GROUND SUPPORT EQUIPMENT:** Vehicles used in support of aircraft activities at airports.
- 216 GROUP I VEHICLES:** Passenger cars, large/heavy duty truck cabs and chassis, light and medium duty trucks and vans, and motorcycles.
- 217 GROUP II VEHICLES:** Public transit buses and mobile equipment.
- 218 HIGH VOLUME, LOW PRESSURE (HVLP) SPRAY APPLICATOR:** Equipment used to apply coatings by means of a gun which is designed to be operated and which is operated between 0.1 and 10 psig air atomized pressure measured dynamically at the center of the air cap and at the air horns.
- 219 LACQUER:** A coating that dries primarily by solvent evaporation and is resolvable in its original solvent.
- 220 LARGE/HEAVY DUTY TRUCK:** A truck having a manufacturer's gross vehicle weight rating of over 30,000 pounds.
- 221 LIGHT AND MEDIUM DUTY TRUCK OR VAN:** A truck or van having a manufacturer's gross vehicle weight rating of 30,000 pounds or less.
- 222 METALLIC COATING TOPCOAT:** A coating which contains more than 5 g/l (0.042 lb/gal) of metal particles, as applied, where such particles are visible in the dried film.
- 223 MOBILE EQUIPMENT:** Equipment which may be drawn or is capable of being driven on rails or on a roadway, including, but not limited to, trains, railcars, truck bodies, truck trailers, camper shells, mobile cranes, bulldozers, street cleaners, golf carts and implements of husbandry.
- 224 MULTI STAGE TOPCOAT SYSTEM:** A topcoat system composed of either a basecoat-clearcoat, a basecoat-midcoat-clearcoat, or a groundcoat-basecoat-midcoat-clearcoat.

The VOC content of a basecoat-clearcoat coating system shall be calculated according to the following formula:

$$VOC_{Total} = \frac{VOC_{bc} + 2VOC_{cc}}{3}$$

The VOC content of a 3 Stage coating system shall be calculated according to the following formula:

$$VOC_{Total} = \frac{VOC_{bc} + VOC_{mc} + 2VOC_{cc}}{4}$$

The VOC content of a 4 Stage coating system shall be calculated according to the following formula:

$$VOC_{Total} = \frac{VOC_{gc} + VOC_{bc} + VOC_{mc} + 2VOC_{cc}}{5}$$

Where:

- VOC_{Total} = The sum of the VOC content, as applied and used to determine compliance with Section 301.
- VOC_{gc} = The VOC content, as applied, of a pigmented groundcoat or tinted primer sealer.
- VOC_{bc} = The VOC content, as applied, of a pigmented basecoat.
- VOC_{mc} = The VOC content, as applied, of a translucent midcoat.
- 2VOC_{cc} = Two times the VOC content, as applied, of a transparent clearcoat.

- 225 PRECOAT:** A coating which is applied to bare metal primarily to deactivate the metal surface prior to application of a subsequent water-base primer surfacer. Effective January 1, 1997, a precoat shall be a coating that dries by oxidation or chemical polymerization. A precoat must not be a lacquer product. Purchase invoices must be retained to verify that usage of precoat is no more than 25%, by volume, of primer/surfacer usage.
- 226 PRETREATMENT WASH PRIMER:** A coating which contains a minimum of 0.5 percent acid by weight to provide surface etching, and which is applied directly to bare metal surfaces to provide corrosion resistance and topcoat adhesion.
- 227 PRIMER:** A coating applied prior to the application of a topcoat for the purpose of corrosion resistance and adhesion of the topcoat. Primer surfacer and primer sealer shall be considered a primer when applied to Group II vehicles.
- 228 PRIMER SEALER:** A coating applied for the purpose of sealing the underlying metal or coating system prior to the application of a topcoat.
- 229 PRIMER SURFACER:** A coating applied prior to the application of a topcoat for the purpose of corrosion resistance, adhesion of the topcoat, and which promotes a uniform surface by filling in surface imperfections.
- 230 REDUCER:** The solvent used to thin enamel.
- 231 REFINISHING:** The coating of vehicles, their parts and components, or mobile equipment, including partial body collision repairs, for the purpose of protection or beautification and which is subsequent to the original coating applied at an Original Equipment Manufacturing (OEM) plant coating assembly line.
- 232 SPECIALTY COATING:** A unique coating containing additives which are necessary due to unusual job performance requirements. Specialty coatings include, but are not limited to, adhesion promoters, uniform finish blenders, elastomeric materials, gloss flatteners, bright metal trim repair, and anti-glare/safety coatings.
- 233 TEMPORARY PROTECTIVE COATING:** A coating applied to areas adjacent to those being painted, for the purpose of protecting those areas from overspray. The temporary protective coating is removed after primer or topcoat applications.
- 234 TOPCOAT:** A coating applied over a primer, primer system, or an original OEM finish for the purpose of protection or appearance. For the purposes of this rule, solid color and metallic topcoats are single stage applications, the VOC_{Total} of a multi stage topcoat system will determine compliance with VOC standards in Section 301.
- 235 TOUCH-UP:** The application of a coating by brush, air brush, or hand held, non-refillable aerosol cans, to repair minor surface damage and imperfections less than four square feet in area.
- 236 TRANSFER EFFICIENCY:** The ratio of the amount of coating solids adhering to the object being coated to the total amount of coating solids used in the application process, expressed as a percentage.

237 UTILITY BODY: A special purpose service compartment or unit that will be bolted, welded, or affixed onto an existing cab and chassis. The compartment may serve as storage for equipment or parts.

238 VOLATILE ORGANIC COMPOUND (VOC): Any chemical compound containing at least one atom of carbon except for the Exempt Compounds listed in Rule 102, Definitions.

300 STANDARDS

301 LIMITS: Any person who applies coatings to Group I or II vehicles, mobile equipment, or their parts and components, shall comply with Sections 301.1 and 301.2 of this rule, as applicable.

301.1 Group I Vehicles: A person shall not refinish Group I Vehicles (or Group II Vehicles where color match is required), or their parts and components, using any coating with a VOC content in excess of the following limits, expressed as grams of VOC per liter (or pounds per gallon) of coating as applied, excluding water and exempt compounds (as defined in Rule 102) unless emissions to the atmosphere are controlled to an equivalent level by air pollution abatement equipment with an overall control efficiency (capture and control), as determined in Sections 506.4 and 506.5, of at least 85 percent and which has been approved in writing by the Air Pollution Control Officer. Pursuant to Section 302, any person seeking to utilize such abatement equipment shall submit an Operation and Maintenance Plan at least 90 days in advance of the date on which abatement equipment control is to be used in lieu of compliance with VOC content limitations. Submittal of an application for Authority to Construct per Rule 501, General Permit Requirements, will also be required.

COATING	JANUARY 1, 1996 VOC	JANUARY 1, 1997 VOC	JANUARY 1, 1998 VOC
Pretreatment Wash Primer	780 g/l (6.5 lbs/gal)	780 g/l (6.5 lbs/gal)	780 g/l (6.5 lbs/gal)
Precoat	780 g/l (6.5 lbs/gal)	600 g/l (5.0 lbs/gal)	600 g/l (5.0 lbs/gal)
Primer/Primer Surfer	720 g/l (6.0 lbs/gal)	340 g/l (2.8 lbs/gal)	250 g/l (2.1 lbs/gal)
Primer Sealer	720 g/l (6.0 lbs/gal)	600 g/l (5.0 lbs/gal)	420 g/l (3.5 lbs/gal)
Solid Color Topcoat	720 g/l (6.0 lbs/gal)	600 g/l (5.0 lbs/gal)	420 g/l (3.5 lbs/gal)
Metallic Topcoat	720 g/l (6.0 lbs/gal)	600 g/l (5.0 lbs/gal)	520 g/l (4.3 lbs/gal)
Specialty Coating	840 g/l (7.0 lbs/gal)	840 g/l (7.0 lbs/gal)	840 g/l (7.0 lbs/gal)
Multi Stage Topcoat System	720 g/l (6.0 lbs/gal)	600 g/l (5.0 lbs/gal)	540 g/l (4.5 lbs/gal)

301.2 Group II Vehicles and Mobile Equipment: A person shall not finish or refinish Group II vehicles and equipment or their parts and components, using any coating with a VOC content in excess of the following limits, expressed as grams of VOC per liter (or pounds per gallon) of coating as applied, excluding water and exempt compounds (as defined in Rule 102) unless emissions to the atmosphere are controlled to an equivalent level by air pollution abatement equipment with an overall control efficiency (capture and control), as determined in Sections 506.4 and 506.5, of at least 85 percent and which has been approved in writing by the Air Pollution Control Officer. Pursuant to Section 302, any person seeking to utilize such abatement equipment shall submit an Operation and Maintenance Plan at least 90 days in advance of the date on which abatement equipment control is to be used in lieu of

compliance with VOC content limitations. Submittal of an application for Authority to Construct per Rule 501, General Permit Requirements, will also be required.

COATING	JANUARY 1, 1996 VOC	JANUARY 1, 1997 VOC	JANUARY 1, 1998 VOC
Pretreatment Wash Primer	780 g/l (6.5 lbs/gal)	780 g/l (6.5 lbs/gal)	780 g/l (6.5 lbs/gal)
Precoat	780 g/l (6.5 lbs/gal)	600 g/l (5.0 lbs/gal)	600 g/l (5.0 lbs/gal)
Primer/Primer Surfacers	340 g/l (2.8 lbs/gal)	340 g/l (2.8 lbs/gal)	250 g/l (2.1 lbs/gal)
Primer Sealer	420 g/l (3.5 lbs/gal)	340 g/l (2.8 lbs/gal)	340 g/l (2.8 lbs/gal)
Topcoat	420 g/l (3.5 lbs/gal)	420 g/l (3.5 lbs/gal)	420 g/l (3.5 lbs/gal)
Metallic Topcoat	420 g/l (3.5 lbs/gal)	420 g/l (3.5 lbs/gal)	420 g/l (3.5 lbs/gal)
Specialty Coating	840 g/l (7.0 lbs/gal)	840 g/l (7.0 lbs/gal)	840 g/l (7.0 lbs/gal)
Camouflage	420 g/l (3.5 lbs/gal)	420 g/l (3.5 lbs/gal)	420 g/l (3.5 lbs/gal)

301.3 Utility Body Requirements: The standards set forth in Section 301.1 shall apply to the coating of utility bodies only when color match is required and the volume of utility bodies to be coated is 20 per day or less. If both of these conditions do not apply, the standards set forth in Section 301.2 shall apply to the coating of utility bodies.

302 OPERATION AND MAINTENANCE PLAN: Any person using air pollution abatement equipment pursuant to Section 301 shall submit an Operation and Maintenance Plan for the emissions control equipment to the Air Pollution Control Officer for approval. The Plan shall specify operation and maintenance procedures which will demonstrate continuous operation and compliance of the emissions control equipment during periods of emissions-producing operations. The Plan shall also specify which daily records must be kept to document these operations and maintenance procedures. These records shall comply with the requirements of Section 504. The Plan shall be implemented upon approval by the Air Pollution Control Officer.

303 TRANSFER EFFICIENCY: Effective January 1, 1998, for all coatings, a person shall not apply any coating to any Group I or II vehicles or mobile equipment or their parts and components unless one of the following methods is used:

303.1 Electrostatic application equipment, operated in accordance with the manufacturer's recommendations;

303.2 High Volume Low Pressure (HVLP) spray equipment, operated in accordance with the manufacturer's recommendations;

303.3 Any other equivalent coating application method which has been demonstrated to have a transfer efficiency of 65% or greater according to the requirements of Section 506.3, Determination of Transfer Efficiency, and which has been submitted to and approved by the Air Pollution Control Officer.

304 SURFACE PREPARATION AND SOLVENT LOSS MINIMIZATION: Any person using organic solvent for surface preparation and cleanup or mixing, using or disposing of coating or stripper containing organic solvent:

304.1 Shall use closed, nonabsorbent containers for the storage or disposal of cloth or paper used for solvent surface preparation and cleanup.

- 304.2 Shall store fresh or spent solvent, coating, catalyst, thinner, or reducer in closed containers when not in use.
- 304.3 Shall not, effective January 1, 1997, use organic compounds for the cleanup of spray equipment including paint lines unless an enclosed system or other system that has been approved in writing for use by the Air Pollution Control Officer and submitted to and approved by the Air Resources Board (ARB) and U.S. EPA, is used for cleanup. The system must enclose spray guns, cups, nozzles, bowls and other parts during washing, rinsing and draining procedures. Equipment used shall minimize the evaporation of organic compounds to the atmosphere.
- 304.4 Effective January 1, 1997, the VOC content of surface preparation solvent shall not exceed 72 g/l (0.6 lb/gal), excluding water and exempt compounds. This limit shall not apply to surface preparation material applied from a hand-held spray bottle for the removal of road tar, engine oil, grease, overspray, or adhesives, from the vehicle, or used to clean plastic parts. The VOC content of surface preparation solvent used to remove road tar, engine oil, grease, overspray, or adhesives, from the vehicle, or used to clean plastic parts shall not exceed 780 g/l (6.5 lbs/gal), excluding water and exempt compounds.
- 305 SPECIALTY COATING:** Use of all specialty coatings except antiglare/safety coatings shall not exceed 5.0% of all coatings applied, on a monthly basis.
- 306 TEMPORARY PROTECTIVE COATING:** A person shall not use any temporary protective coating with a VOC content in excess of 60 g/l (0.5 lbs/gal), of material.
- 307 PRECOAT LIMITATION:** A person shall not use precoat in excess of 25%, by volume, of the amount of primer surfacer used, on a monthly basis.
- 308 HVLP MARKING:** Effective April 3, 1995, a person shall not sell or offer for sale for use within the District any HVLP gun without a permanent marking denoting the maximum inlet air pressure in psig at which the gun will operate within the parameters specified in Section 218.

400 ADMINISTRATIVE REQUIREMENTS

- 401 PROHIBITION OF SPECIFICATION:** No person shall solicit or require for use or specify the application of a coating on a Group I or II vehicle, mobile equipment, or part or component thereof if such use or application results in a violation of the provisions of this rule. The prohibition of this Section will apply to all written or oral contracts under the terms of which any coating which is subject to the provisions of this rule is to be applied to any motor vehicle, mobile equipment, or part or component at any physical location within the District.
- 402 PROHIBITION OF SALE:** A person shall not offer for sale or sell within the District any coating if such product is prohibited by any of the provisions of this rule. The prohibition of this section shall apply to the sale of any coating which will be applied at any physical location within the jurisdiction of the local air pollution control agencies. This requirement shall not apply to the application of coatings where emissions to the atmosphere are controlled to an equivalent level of this rule by air pollution abatement equipment with an overall efficiency (capture and control) as determined in Sections 506.4 and 506.5, of at least 85 percent and which has been approved in writing by the Air Pollution Control Officer.
- 403 VOC COMPLIANCE STATEMENT REQUIREMENT:** The manufacturer of coatings subject to this rule shall include a designation of VOC (as defined in Section 238 of this rule) as supplied and as applied, expressed in grams per liter (or pounds per gallon), excluding water and exempt compounds, on data sheets. The manufacturer of temporary protective coatings shall indicate the VOC designation as grams per liter (or pounds per gallon) of material.
- 404 CALCULATION FOR VOC MASS EMISSION RATE AND CONTROL EFFICIENCY:** The VOC mass emission rate shall be calculated both upstream and downstream of the emissions control device based on the respective VOC mass concentration and volumetric flowrate, pursuant to Section 506.4 and the following equation:

$$M = (Q)(C)(60 \text{ min/hr})$$

Where: M = VOC mass emission rate, in lb/hr.
 Q = The volumetric flowrate of the exhaust stack, in scfm.
 C = The VOC mass concentration, in lb/scf, as measured by EPA Method 25.

The percent control efficiency is calculated as follows:

$$\% \text{ CE} = [(MU - MD) / MU] \times 100$$

Where: CE = Control efficiency.
 MU = The upstream VOC mass emission rate, in lb/hr.
 MD = The downstream VOC mass emission rate, in lb/hr.

500 MONITORING AND RECORDS

501 USER COATING RECORDS: Operators of facilities subject to this Rule shall maintain a current listing of all as-applied VOC containing materials in use at their facility. This listing shall include:

- a. material name and manufacturer identification;
- b. application method;
- c. material type, group number (I or II) and specific use instructions (such as "precoat must be applied to bare metal and followed with a compliant primer");
- d. specific mixing instructions;
- e. maximum VOC content of coatings as applied (including reducing solvents);

Current coating manufacturing specification sheets, material data sheets or current air quality data sheets, which list the VOC content of each material, shall be available for review on site. A record of the total facility VOC emissions shall be maintained on a monthly basis. These records shall be summarized for the previous calendar year and submitted to the District by June 1. Such records shall be retained and available for inspection by the District for the previous three (3) year period, except for sources subject to Rule 507, Federal Operating Permit Program, which shall retain records for five (5) years.

502 HIGH VOC EMISSIONS: If VOC emissions for any calendar year exceed 10,000 pounds, recordkeeping requirements in addition to those listed in Section 501, will be required per Rule 511, Potential to Emit.

503 PRECOAT LIMITATION RECORDS: Any person using precoat shall verify compliance with Section 307 by retaining purchase invoices and records of applied volume of precoat on a monthly basis. Such records shall be retained for the previous three (3) year period and made available for inspection upon request.

504 EMISSION CONTROL EQUIPMENT RECORDS: Any person using emissions control equipment pursuant to Section 302 as a means of complying with this rule shall maintain such records as required by the Operation and Maintenance Plan in Section 302 on a daily basis, to include such records as required by Sections 501, 502, and 503.

505 SALES RECORDS: Any person within the District selling coatings subject to this Rule shall make receipts of customer purchases available for inspection upon request. Cash sales shall be recorded including the customer's name and business card. This information can be submitted to the District in electronic data form.

506 TEST METHODS:

- 506.1 Analysis of Samples: Samples of volatile organic compounds as specified in Sections 301.1, and 301.2, of this rule shall be analyzed as prescribed by EPA Reference Method 24.
- 506.2 Determination of Emissions: Emissions of volatile organic compounds as specified in Section 301.1, and 301.2, of this rule shall be measured as prescribed by EPA Reference Method 25.
- 506.3 Determination of Transfer Efficiency: Transfer efficiency as required by Section 302, of this rule shall be determined in accordance with the South Coast Air Quality Management District (SCAQMD) test method for determining transfer efficiency entitled, "Spray Equipment Transfer Efficiency (TE) Test Procedure for Equipment User, May 24, 1989," or other equivalent method which has been approved in writing by the Air Pollution Control Officer and submitted to and approved by U.S. EPA.
- 506.4 Determination of Control Efficiency: Control efficiency as required by Sections 301.1 and 301.2 of this rule, shall be determined in accordance with EPA Method 18, 25, 25A, EPA Method 2 or 2C (whichever is applicable), and Section 404.
- 506.5 Determination of Capture Efficiency: Capture efficiency as required by Section 301.1, and 301.2, of this rule shall be determined by and reported in accordance with 40 CFR 52.741, Appendix B, "VOC Measurement Techniques for Capture Efficiency".
- 506.6 Determination of Metallic Particles in Metallic Coating Topcoat: Metallic particles in metallic coating topcoat as defined, in Section 222, of this rule shall be determined by the South Coast Air Quality Management District (SCAQMD) Method 311 Analysis of Percent Metal in Metallic Coatings by Spectrographic Method contained in the SCAQMD "Laboratory Method of Analysis for Enforcement Samples" manual.
- 506.7 Determination of Acid Concentration in Pretreatment Wash Primer: Acid concentration in pretreatment wash primer as defined in Section 226, of this rule shall be determined by ASTM Test Method D-1613-85 (modified).

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RULE 235 ADHESIVES

Adopted 06-08-95
(Amended 04-10-97, 04-08-04)

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100 GENERAL

101 PURPOSE: To limit emissions of volatile organic compounds (VOCs) from the application of commercial and industrial adhesive or sealant products, and from related solvents and strippers.

102 APPLICABILITY

102.1 Geographic: The provisions of this rule apply to all operations applying adhesives in Placer County

102.2 Business Category: This rule is applicable to any person who:

102.2.1 Manufactures, sells, offers for sale, or uses an adhesive or sealant product; or

102.2.2 Uses a surface preparation solvent, a cleanup solvent, or a stripper; or

102.2.3 Supplies an adhesive or sealant product to the person who applies the product (i.e., the product user); or

102.2.4 Solicits, requires the use of, or specifies the application of any adhesive or sealant product, surface preparation solvent, cleanup solvent or stripper, whether or not such material complies with this rule.

103 SEVERABILITY: If any section, subsection, sentence, clause, phrase, or portion of this rule is, for any reason, held invalid, unconstitutional, or unenforceable by any court of competent jurisdiction, that portion shall be deemed as a separate, distinct, and independent provision, and the holding shall not affect the validity of the remaining portions of the rule.

104 EXEMPTIONS

104.1 Aerosol Cleaning Solvents: The requirements of Section 303 shall not apply to the use of aerosol cleaning solvents at the stationary source provided that the total usage of the aerosol cleaning solvents does not exceed 160 fluid ounces per day, averaged over a calendar month.

104.2 Contact Adhesives: The requirements of Section 302 shall not apply to contact adhesives subject to the Consumer Product Safety Commission regulations in 16 Code of Federal Regulations, Part 1302, provided that adhesives are sold in packages of 128 fluid ounces or less.

104.3 Cyanoacrylate Adhesives: The requirements of this rule shall not apply to cyanoacrylate adhesives.

104.4 Equipment Cleanup: The VOC requirements in Section 304 shall not apply to ethyl acetate used to clean adhesive application equipment when:

104.4.1 The equipment is used in the manufacturing of transdermal drug delivery products, and

104.4.2 Fewer than 3 gallons per day of ethyl acetate, averaged over a calendar month, are used.

104.5 Household Adhesives: The requirements of this rule shall not apply to household adhesives that are regulated by the State of California and that are defined in Section 231.

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- 104.6 Low Usage: The requirements of Sections 302, 303 and 304.1 shall not apply to the materials used by the stationary source, if the total combined volume of these materials used at the stationary source does not exceed 55 gallons during any calendar year. Commercial and industrial operations that use such materials and that are exempted pursuant to this section shall comply with Section 501.
- 104.7 Low VOC Materials: The requirements of this rule shall not apply to materials containing 20 grams/liter or less (0.17 pounds/gallon) of VOC, less water and exempt compounds, as applied.
- 104.8 Materials Regulated Under Other District Rules: The requirements of this rule shall not apply to any material regulated by Rule 239, Graphic Arts Operations.
- 104.9 Medical Equipment Manufacturing: The requirements of this rule shall not apply to solvent welding operations used in the manufacturing of medical devices, including, but not limited to, catheters, heart valves, blood cardioplegia machines, tracheotomy tubes, blood oxygenators, and cardiatory reservoirs.
- 104.10 Research and Development Operations: Sections 302, 303 and 304.1 shall not apply to the testing and evaluation of materials in research and development laboratories, quality assurance laboratories, or analytical laboratories, provided that these sources maintain records that comply with Section 501.
- 104.11 Small Container: The requirements of this rule shall not apply to materials sold or supplied in non-reusable containers that are designed to hold no more than 8 fluid ounces of materials.
- 104.12 Tire Repair: The requirements of this rule shall not apply to materials used for tire repair if such products are labeled by the manufacturer: "For Tire Repair Only."
- 104.13 Undersea Weapons: The requirements of this rule shall not apply to the manufacture, maintenance, or repair of undersea-based weapon systems.
- 104.14 Ultraviolet Light-Cured Adhesives: The requirements of this rule shall not apply to reactive adhesives that are cured through the application of ultraviolet light, electron beam, visible light, radio frequency, or microwaves.

200 DEFINITIONS

- 201 ACRYLONITRILE-BUTADIENE-STYRENE (ABS) WELDING ADHESIVE:** Any adhesive intended by the manufacturer to weld ABS pipe. ABS pipe is made by reacting monomers of acrylonitrile, butadiene, and styrene and is normally identified with an "AABS" marking.
- 202 ADHESIVE:** Any substance that is used to bond one surface to another surface by attachment.
- 203 ADHESIVE OR SEALANT PRODUCT:** Any adhesive, adhesive primer, aerosol adhesive, aerosol adhesive primer, sealant, or sealant primer, as sold by the manufacturer or as applied.
- 204 ADHESIVE PRIMER:** A coating applied to a substrate, prior to the application of an adhesive, to provide a bonding surface.
- 205 AEROSOL ADHESIVE:** An adhesive consisting of a mixture of rubber, resins, liquid and/or gaseous solvents, and propellants packaged in a hand-held, pressurized, non-refillable container. The container expels pressurized aerosol materials in a finely divided spray when a valve on the container is depressed.

- 206 AEROSOL ADHESIVE PRIMER:** A primer used exclusively to provide a bonding surface on substrates for subsequent application of aerosol adhesives. It consists of a mixture of liquid and/or gaseous materials and propellants packaged in a hand-held, pressurized, non-refillable container. The container expels pressurized aerosol primer materials in a finely divided spray when a valve on the container is depressed.
- 207 AEROSOL CLEANING SOLVENT:** A material used as a surface preparation solvent, a cleanup solvent, or as a stripper and consisting of liquid and/or gaseous solvent and propellants packaged in a hand-held, pressurized, non-refillable container. The container expels pressurized aerosol materials in a finely divided spray when a valve on the container is depressed.
- 208 APPLICATION EQUIPMENT:** A device such as a spray gun, pot, hose, brush, roller, electrostatic sprayer, non-propellant spray bottle, or squeegee, used to apply an adhesive or sealant product, a surface preparation solvent, a cleanup solvent, or a stripper.
- 209 ARCHITECTURAL SEALANT/PRIMER:** Any sealant or sealant primer intended by the manufacturer to be applied to stationary structures, including mobile homes, and their appurtenances. Appurtenances to an architectural structure include, but are not limited to: hand railings, cabinets, bathroom and kitchen fixtures, fences, rain gutters and downspouts, and windows.
- 210 AUTOMOTIVE GLASS ADHESIVE PRIMER:** An adhesive primer labeled by the manufacturer to be applied to automotive glass prior to installation of the glass using an adhesive/sealant. This primer improves the adhesion to pinch weld and blocks ultraviolet light.
- 211 CERAMIC TILE INSTALLATION ADHESIVE:** Any adhesive intended by the manufacturer for the installation of ceramic tiles.
- 212 CHLORINATED POLYVINYL CHLORIDE (CPVC) WELDING ADHESIVE:** Any adhesive intended by the manufacturer to weld CPVC plastic pipe.
- 213 CHLORINATED POLYVINYL CHLORIDE (CPVC) PLASTIC:** CPVC plastic is a polymer of the monomer that contains 67 percent chlorine and is normally identified with a CPVC marking.
- 214 CLEANUP SOLVENT:** A VOC-containing material used to:
- 214.1 Remove a loosely held uncured (i.e., not dry to the touch) adhesive or sealant from a substrate, or
 - 214.2 Clean equipment that was used to apply an adhesive or sealant product.
- 215 CLOSED CONTAINER:** A covered receptacle, which has no visible gaps where the cover and the main body of the receptacle meet.
- 216 COMPUTER DISKETTE JACKET MANUFACTURING ADHESIVE:** Any adhesive intended by the manufacturer to bond the fold-over flaps to the body of a vinyl computer diskette jacket.
- 217 CONTACT ADHESIVE:** An adhesive that forms an instantaneous bond that cannot be repositioned when substrates, on which the adhesive is applied and allowed to dry, are brought together using momentary pressure.
- 218 CONTROL DEVICE:** Equipment that is utilized as part of an emission control system, and which destroys, absorbs or otherwise eliminates or reduces the emission of Volatile Organic Compounds from adhesive/sealant operations.

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- 219 COVE BASE INSTALLATION ADHESIVE:** Any adhesive intended by the manufacturer for the installation of cove base (or wall base), which is generally made of vinyl or rubber, onto a wall or vertical surface at floor level.
- 220 CURED:** Dry to the touch.
- 221 CYANOACRYLATE ADHESIVE:** An adhesive with a cyanoacrylate content of at least 90% by weight and which emits less than 20 grams per liter of VOC as determined pursuant to Section 502.11.
- 222 DRYWALL INSTALLATION:** The installation of gypsum drywall to studs or solid surfaces.
- 223 ENCLOSED GUN CLEANER:**
- 223.1 A device that is used for the cleaning of spray guns, pots, cups, and hoses, that has a closed solvent container, is not open to the ambient air when in use, and has a mechanism to force the cleanup material through the gun while the cleaner is in operation; or
- 223.2 A device that is used for the cleaning of spray guns, pots, cups, and hoses, that has a closed solvent container, uses non-atomized solvent flow to flush the spray equipment, and collects and returns the discharged solvent to the closed container.
- 224 EXEMPT COMPOUNDS:** For the purposes of this rule, "Exempt Compounds" are as defined in Rule 102, Definitions.
- 225 FIBERGLASS:** A fiber made of fine filaments of glass that is similar in appearance to wool or cotton fiber.
- 226 FLEXIBLE VINYL:** A nonrigid polyvinyl chloride plastic with at least five percent, by weight, of plasticizer content, as determined per Section 502.8.
- 227 FLEXIBLE VINYL ADHESIVE:** An aerosol adhesive designed to bond flexible vinyl to substrates.
- 228 HAND APPLICATION METHODS:** The application of an adhesive or sealant product by manually held equipment. Such equipment includes: paint brushes, hand rollers, trowels, spatulas, daubers, rags, sponges, and mechanically or pneumatically driven syringes that do not atomize the applied products.
- 229 HIGH PRESSURE LAMINATE:** Sheets of materials, consisting of paper, fabric, or other core material, that have been laminated at temperatures exceeding 265 degrees F, and at pressures between 1,000 and 1,400 pounds per square inch.
- 230 HIGH-VOLUME LOW-PRESSURE (HVLP) APPLICATION EQUIPMENT:** Equipment used to apply coating by means of a spray gun which is designed to be operated, and which is operated between 0.1 and 10.0 pounds per square inch gauge (psig) air pressure, measured dynamically at the center of the air cap and at the air horns.
- 231 HOUSEHOLD ADHESIVE:** An adhesive subject to Title 17, California Code of Regulations, Sections 94507-94517 (Consumer Products). Household adhesives do not include units of product, less packaging, that weigh more than one pound or contain more than 16 fluid ounces.
- 232 INDOOR FLOOR COVERING INSTALLATION ADHESIVE:** Any adhesive intended by the manufacturer for the installation of wood flooring, carpet, carpet pads, rubber flooring, resilient tile, vinyl tile, vinyl backed carpet, resilient sheet and roll, or artificial grass. Such

installed materials are in an enclosure and are not exposed to ambient weather conditions during normal use. Indoor floor covering installation does not include ceramic tile installation or subfloor installation.

- 233 KEY SYSTEM OPERATING PARAMETER:** A variable that is critical to the operation of an emission control system and that ensures both operation of the system within the system manufacturer's specifications, and compliance with the overall system efficiency standard required by Section 305. Such variables may include, but are not limited to, hours of operation, temperature, flow rate, and pressure.
- 234 LEAK:** A visible liquid solvent loss or a solvent vapor (mist) loss from unintended openings in a container.
- 235 LOW-SOLIDS MATERIAL:** A material containing no more than 120 grams of solids per liter (1.0 pound of solids per gallon) of product.
- 236 LOW-VOLUME LOW-PRESSURE (LVLP) APPLICATION EQUIPMENT:** Spray coating application equipment with air pressure between 0.1 and 10.0 pounds per square inch gauge (psig) and air volume less than 15.5 cubic feet per minute (cfm) per spray gun and which operates at a maximum fluid delivery pressure of 50 psig.
- 237 MARINE DECK SEALANT/SEALANT PRIMER:** Any sealant or sealant primer intended by the manufacturer to seal gaps on wooden marine decks.
- 238 MATERIAL:** Any material containing VOC including but not limited to, an adhesive, adhesive primer, aerosol adhesive, aerosol adhesive primer, sealant, sealant primer, catalyst, colorant, stripper, or solvents used in cleaning.
- 239 METAL TO URETHANE/RUBBER MOLDING OR CASTING ADHESIVE:** Any adhesive intended by the manufacturer to bond metal to high-density or elastomeric urethane or molded rubber materials, in heater molding or casting processes, to fabricate products such as rollers for computer printers or other paper handling equipment.
- 240 MULTIPURPOSE CONSTRUCTION ADHESIVE:** Any adhesive intended by the manufacturer for the installation or repair of various construction materials, including, but not limited to, drywall, subfloor, panel, fiberglass reinforced plastic, ceiling tile, and acoustical tile.
- 241 NONCOMPLIANT MATERIAL:** A material that:
- 241.1 exceeds the VOC content limits specified in Sections 302, 303, and 304.1, and is not exempt pursuant to Section 104 and which is not used with emission control equipment pursuant to Section 305; or
 - 241.2 exceeds the VOC content limit and/or composite vapor pressure limit, as applicable, in Section 304.1 and which is not used with emission control equipment pursuant to Section 305.
- 242 NON-MEMBRANE ROOF INSTALLATION/REPAIR ADHESIVE/SEALANT:** Any adhesive or sealant intended by the manufacturer for the installation or repair of non-membrane roofs, but is not intended for the installation of prefabricated single-ply roof membrane. With regard to non-membrane roof installation/repair adhesives, this category includes plastic or asphalt roof cement, asphalt roof coatings, and cold application cement.
- 243 NON-POROUS MATERIAL:** A material which does not have tiny openings, often microscopic, to allow the absorption or discharge of fluids.

- 244 OUTDOOR FLOOR COVERING INSTALLATION ADHESIVE:** Any adhesive intended by the manufacturer for the installation of floor covering that is not in an enclosure and is exposed to ambient weather conditions during normal use. Outdoor floor covering installation does not include ceramic tile installation or subfloor installation.
- 245 PANEL INSTALLATION:** The installation of plywood, pre-decorated hardboard, tile board, fiberglass reinforced plastic, and similar pre-decorated or non-decorated panels to studs or solid surfaces.
- 246 PLASTIC:** A synthetic material chemically formed by the polymerization of organic (carbon-based) substances.
- 247 PLASTIC CEMENT WELDING ADHESIVE:** Any adhesive made of resins and solvents that is formulated to dissolve the surfaces of plastic to form a bond between mating surfaces.
- 248 PLASTIC CEMENT WELDING ADHESIVE PRIMER:** Any primer intended by the manufacturer to prepare plastic substrates prior to bonding or welding.
- 249 PLASTICIZER:** A material, such as a high boiling point organic solvent, that is incorporated into a vinyl to increase its flexibility, workability, or distensibility, as determined by ASTM Method E-260-96.
- 250 POLYVINYL CHLORIDE (PVC) WELDING ADHESIVE:** Any adhesive intended by the manufacturer to weld PVC plastic pipe.
- 251 POLYVINYL CHLORIDE (PVC) WELDING SEALANT:** A sealant designed to adhere to polyvinyl chloride (PVC) by dissolving its surface and to fill or seal gaps between PVC surfaces or between PVC and other surfaces.
- 252 POROUS MATERIAL:** A material whose surface is permeable to liquids; such materials include, but are not limited to, foam, paper, corrugated paperboard, stone, and wood.
- 253 PROPELLANT:** A fluid under pressure that expels the contents of a container when a valve is opened.
- 254 REACTIVE ADHESIVE:** An adhesive containing 20 grams or less per liter (0.17 lbs/gal) of VOCs, less water and exempt compounds, as applied, that cures upon exposure to ultraviolet light, electron beam, visible light, radio frequency, or microwave.
- 255 ROADWAY SEALANT:** Any sealant intended by the manufacturer to be applied to public streets, highways, and related surfaces such as curbs, berms, driveways, and parking lots.
- 256 RUBBER:** Any natural or manmade rubber substrate, including, but not limited to: styrene-butadiene rubber, polychloroprene (neoprene), butyl rubber, nitrile rubber, chlorosulfonated polyethylene, and ethylene propylene diene terpolymer.
- 257 RUBBER FLOORING:** Flooring material in which both the back and the top surface are made of synthetic rubber, and which may be in sheet or tile form.
- 258 SEALANT:** Any material with adhesive properties that is applied as a rope or bead and that is formulated for use primarily to fill, seal, waterproof, or weatherproof gaps or joints between two surfaces. Sealants include caulks. Sealants do not include sealers that are applied as continuous coatings.
- 259 SEALANT PRIMER:** Any material intended by the manufacturer for application to a substrate, prior to the application of a sealant, to enhance the bonding surface.

- 260 SINGLE-PLY ROOF MEMBRANE:** A single sheet of rubber, normally ethylene-propylene diene polymer that is applied in a single layer to a building roof (normally a flat roof).
- 261 SOLVENT WELDING:** The softening of the surfaces of two substrates by wetting them with a solvent and/or adhesive, and joining them together using a chemical and/or physical reaction(s) to form a fused union.
- 262 SOLID MATERIAL:** The nonvolatile portion of an adhesive or sealant product, surface preparation solvent, cleanup solvent, or stripper that remains after heating a sample of the product at 110°C for one hour.
- 263 SOLVENT WELDING:** The softening of the surfaces of two substrates by wetting them with a solvent and/or adhesive, and joining them together with a chemical and/or physical reaction(s) to form a fused union.
- 264 STATIONARY SOURCE:** Any building, structure, facility, or emissions unit which emits or may emit any pollutant directly or as a fugitive emission. This includes all pollutant-emitting activities which:
- 264.1 Belong to the same industrial grouping, and
 - 264.2 Are located on one property or on two or more contiguous properties, and
 - 264.3 Are under the same or common ownership, operation, or control or which are owned or operated by entities, which are under common control.
- Pollutant-emitting activities shall be considered as part of the same industrial grouping if they:
- 264.4 Belong to the same two-digit standard industrial classification code, or
 - 264.5 Are part of a common production process. (Common production process includes industrial processes, manufacturing processes and any connected processes involving a common material.)
- 265 STRIPPER:** A liquid used to remove cured adhesives and/or cured sealants.
- 266 STRUCTURAL GLAZING ADHESIVE:** Any adhesive intended by the manufacturer to adhere glass, ceramic, metal, stone, or composite panels to exterior building frames.
- 267 SUBFLOOR INSTALLATION:** The installation of subflooring material, typically plywood, over flooring joists. Subfloor installation includes the construction of any load bearing joints in joists or trusses. Subflooring is covered by a finished surface material.
- 268 SUBSTRATE:** The material onto which an adhesive or sealant product, surface preparation solvent, cleanup solvent, or stripper is applied.
- 269 SURFACE PREPARATION SOLVENT:** Any VOC-containing material used to remove contaminants such as dust, soil, oil, grease, etc., from a substrate prior to the application of an adhesive or sealant product.
- 270 THIN METAL LAMINATING ADHESIVE:** Any adhesive intended by the manufacturer to bond multiple layers of metal to metal or metal to plastic in which the thickness of the bond line(s) is less than 0.025 mils (0.000025 inches).
- 271 TIRE REPAIR:** To mend a hole, tear, fissure, blemish, or defect in a tire casing by grinding and/or gouging, applying adhesive, and attaching replacement rubber.

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- 272 TIRE RETREAD ADHESIVE:** An adhesive applied to the back of precured tread rubber and to the casing and cushion rubber. Tire retread adhesive may also be used to seal buffed tire casings to prevent oxidation while the tire is being prepared for a new tread.
- 273 TRAFFIC MARKING TAPE ADHESIVE PRIMER:** An adhesive primer intended by the manufacturer to be applied to surfaces prior to the installation of traffic marking tape. Traffic marking tape is a pre-formed reflective film intended by the manufacturer to be applied to public streets, highways, and other surfaces including, but not limited to, curbs, berms, driveways, and parking lots. It is not one of the "Traffic Coatings" included in and defined in Rule 218, Architectural Coatings.
- 274 VOLATILE ORGANIC COMPOUND (VOC):** Any chemical compound containing at least one atom of carbon, except for the exempt compounds listed in Rule 102, Definitions.
- 275 VOLATILE ORGANIC COMPOUND (VOC) AS APPLIED:** A VOC as applied, means the VOC content of the material as applied including thinners, reducers, hardeners, retarders, catalysts and additives, and calculated pursuant to Section 502.1.
- 276 VOLATILE ORGANIC COMPOUND (VOC) AS SUPPLIED:** A VOC as supplied, means the VOC content of the original material as supplied by the manufacturer, and calculated pursuant to Section 502.1.
- 277 WATERPROOF RESORCINOL GLUE:** A two-part resorcinol resin based adhesive designed for applications where the bond line must be resistant to conditions of continuous immersion in fresh or salt water.
- 278 WIPE CLEANING:** The method of cleaning a surface by physically rubbing it with a material such as a rag, paper, abrasive pad, brush, or a cotton swab moistened with a solvent.
- 279 WOOD FLOORING:** A wood floor surface, which may be in the form of parquet tiles, planks, or strip-wood.

300 STANDARDS

301 MATERIAL APPLICATION METHODS:

- 301.1 A person shall not use any methods to apply any adhesive or sealant product except the following:
- 301.1.1. Hand application
 - 301.1.2. Dip coat
 - 301.1.3. Flow coat
 - 301.1.4. Brush or roll coat
 - 301.1.5. Electrodeposition
 - 301.1.6. Electrostatic spray
 - 301.1.7. High-volume low-pressure (HVLP) application equipment
 - 301.1.8. Low-volume low-pressure (LVLP) application equipment
 - 301.1.9. Aerosol cans
 - 301.1.10. Airless sprayer (For applying contact adhesives, only)

- 301.1.11 Air-assisted airless sprayer (For applying contact adhesives, only)
- 301.1.12. Air-atomized sprayer (For applying contact adhesives, only)
- 301.1.13 Any other equivalent method approved in writing by the Air Pollution Control Officer and submitted to and approved by the United States Environmental Protection Agency.
- 301.2 A person shall not use any methods to apply any surface preparation solvent, cleanup solvent, or stripper except the following:
 - 301.2.1 Wipe cleaning.
 - 301.2.2. Non-propellant spray bottles or containers.
 - 301.2.3 An enclosed gun cleaner as defined by Section 223.
 - 301.2.4 Soaking application equipment parts in a closed container.

302 VOC CONTENT LIMITS, ADHESIVES, ADHESIVE PRIMERS, SEALANTS AND SEALANT PRIMERS:

- 302.1 A person shall not apply a material that has a VOC content, as applied, as determined per Section 502.1, in excess of the limits listed in the six tables listed in this section. For low solids material only, the VOC content shall be calculated based on grams per liter of material or pounds per gallon of material including water and exempt compounds. For all other materials, the VOC content shall be calculated in grams per liter of material or pounds per gallon of material, less water and exempt compounds.

TABLE 302-1 VOC CONTENT FOR ADHESIVES		
Adhesive	Effective December 1, 1998 VOC Content gm/liter (lb/gal) less water and exempt compounds	Effective April 5, 2005 VOC Content gm/l (lb/gal)
ABS Welding Adhesive	400 (3.3)	400 (3.3)
Ceramic Tile Installation Adhesive	130 (1.1)	130 (1.1)
Computer Diskette Jacket Manufacturing Adhesive	850 (6.9)	850 (6.9)
Cove Base Installation Adhesive	150 (1.2)	150 (1.2)
CPVC Welding Adhesive	490 (4.0)	490 (4.0)
Indoor Floor Covering Installation Adhesive	150 (1.2)	150 (1.2)
Metal to Urethane/Rubber Molding or Casting Adhesive	250 (2.0)	250 (2.0)
Multipurpose Construction Adhesive	200 (1.6)	200 (1.6)
Non-Membrane Roof Installation/Repair Adhesive	300 (2.5)	300 (2.5)
Outdoor Floor Covering Installation Adhesive	250 (2.0)	250 (2.0)
Perimeter Bonded Sheet Vinyl Flooring Installation Adhesive	--	660 (5.4)
PVC Welding Adhesive	510 (4.2)	510 (4.2)
Single-Ply Roof Membrane Installation/Repair Adhesive	250 (2.0)	250 (2.0)

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TABLE 302-1 VOC CONTENT FOR ADHESIVES		
Adhesive	Effective December 1, 1998 VOC Content gm/liter (lb/gal) less water and exempt compounds	Effective April 5, 2005 VOC Content gm/l (lb/gal)
Structural Glazing Adhesive	100 (0.8)	100 (0.8)
Thin Metal Laminating Adhesive	250 (2.0)	780 (6.4)
Tire Retread Adhesive	100 (0.8)	100 (0.8)
Waterproof Resorcinol Glue	170 (1.4)	170 (1.4)
Other Plastic Cement Welding	450 (3.7)	450 (3.7)

TABLE 302-2 VOC CONTENT FOR ADHESIVE PRIMERS		
Adhesive Primer	Effective December 1, 1998 VOC Content gm/liter (lb/gal) less water and exempt compounds	Effective April 8, 2005 VOC Content gm/l (lb/gal)
Automotive Glass	700 (5.7)	700 (5.7)
Plastic Cement Welding	650 (5.3)	400 (3.3)
Single-Ply Roof Membrane	250 (2.0)	250 (2.0)
Traffic Marking Tape	150 (1.2)	150 (1.2)
Other	250 (2.0)	250 (2.0)

TABLE 302-3 VOC CONTENT FOR CONTACT ADHESIVES	
Product	VOC Content gm/liter (lb/gal)
Contact Adhesive including Specialty Substrates	200 (1.6)

TABLE 302-4 VOC CONTENT FOR SEALANTS		
Type of Sealant	Effective December 1, 1998 VOC Content gm/liter (lb/gal) less water and exempt compounds	Effective April 8, 2005 VOC Content gm/l (lb/gal)
Architectural	250 (2.0)	250 (2.0)
Marine Deck	760 (6.2)	760 (6.2)
Non-membrane Roof Installation/Repair	300 (2.5)	300 (2.5)
PVC Welding Sealant	480 (3.9)	Note 1
Roadway Sealant	250 (2.0)	250 (2.0)
Single-Ply Roof Membrane Sealant	450 (3.7)	450 (3.7)
Other	420 (3.4)	420 (3.4)

Note 1: PVS Welding Sealant shall comply with the VOC content limitation for other sealant.

TABLE 302-5 VOC CONTENT FOR SEALANT PRIMERS		
Type of Sealant Primer	Effective December 1, 1998 VOC Content gm/liter (lb/gal) less water and exempt compounds	Effective April 8, 2005 VOC Content gm/l (lb/gal)
Architectural - Non-Porous	250 (2.0)	250 (2.0)
Architectural - Porous	775 (6.3)	775 (6.3)
Marine Deck	760 (6.2)	760 (6.2)
Other	750 (6.1)	750 (6.1)

TABLE 302-6 VOC CONTENT FOR ADHESIVE APPLICATIONS ONTO SUBSTRATES		
The standards in this table apply to applications not specifically identified in Tables 302-1, 302-2, 302-3, 302-4, or 302-5. In this table, if an adhesive is used to bond two different types of substrates with different VOC limits, then the higher of the two VOC limits shall apply.		
Type of Substrate	Effective December 1, 1998 VOC Content gm/liter (lb/gal) less water and exempt compounds	Effective April 8, 2005 VOC Content gm/l (lb/gal)
Flexible Vinyl	250 (2.0)	250 (2.0)
Fiberglass	200 (1.6)	200 (1.6)
Metal	30 (0.2)	30 (0.2)
Porous Material	120 (1.0)	120 (1.0)
Rubber	250 (2.0)	250 (2.0)
Other Substrates	250 (2.0)	250 (2.0)

303 VOC CONTENT LIMITS, AEROSOL ADHESIVES AND ADHESIVE PRIMERS:

- 303.1 A person shall not use an aerosol adhesive and adhesive primers unless the adhesive complies with the VOC limit specified in the table below, in percent by weight, as determined by Sections 407 and 502.2.

Table 303.1 MAXIMUM VOC CONTENT FOR AEROSOL ADHESIVES AND ADHESIVE PRIMERS	
Type of Aerosol Adhesive	VOC % by Weight
Adhesives – Aerosol	
Mist Spray Adhesives	65%
Web Spray Adhesives	55%
Special Purpose Spray Adhesives:	
Mounting, Automotive Engine Compartment, and Flexible Vinyl Adhesives	70%
Polystyrene Foam and Automobile Headliner Adhesives	65%
Polyolefin and Laminate Repair/Edgebanding Adhesives	60%

- 303.2 No person shall manufacture for use in the District any aerosol adhesive which contains methylene chloride, perchloroethylene, or trichloroethylene, except that an aerosol adhesive manufactured before January 1, 2002 may be sold, supplied, or offered for sale until January 1, 2005, as long as the product container or package displays the date on which the product was manufactured, or a code indicating such date.

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304 VOC CONTENT LIMITS, SURFACE PREPARATION, CLEANUP, AND STRIPPER SOLVENTS: A person shall comply with the following requirements:

- 304.1 Materials used for surface preparation, cleaning, or stripping shall not exceed the VOC content and the VOC composite vapor pressure limits specified in the table below. The VOC content of the material as applied shall be determined pursuant to Section 502.1. The composite partial pressure shall be determined using Section 502.9

TABLE 304-1 VOC CONTENT OF SURFACE PREPARATION, CLEANUP, AND STRIPPER SOLVENTS		
Note: Where VOC limits are shown as both grams/liter and composite vapor pressure, either may be used as the content limit for the specific application shown.		
Adhesive or Sealant Product Activity For Which the Solvent Is Used	VOC Content gm/liter (lb/gal) less water and exempt compounds	VOC Composite Partial Pressure Millimeters of Mercury at 20°C (68°F)
Substrate Preparation Activity		
Single-Ply Roof Membrane Installation/Repair	--	45
Electronic Components	900 (7.3)	33
Medical Devices	900 (7.3)	33
Other Substrates	70 (0.6)	--
Cleanup Activity		
Cleaning a Spray Gun in an Enclosed Gun Cleaner	--	less than 45
Soaking Application Equipment in a Closed Container	--	.5
Application Equipment - No Closed Container, No Enclosed Gun Cleaner	70 (0.6)	--
Equipment Other Than Adhesive or Sealant Product Application Equipment	--	less than 45
Solvent Stripping Activity		
Adhesive or Sealant Products on Wood Substrates	less than 350	2
Adhesive or Sealant Products on Substrates Other Than Wood	-	9.5

- 304.2 A person applying any surface preparation solvent, cleanup solvent, or any stripper must use only the following methods:

304.2.1 Wipe cleaning.

304.2.2 Non-propellant spray bottles or containers.

304.2.3 An enclosed gun cleaner as defined by Section 223.

304.2.4 Soaking application equipment parts in a closed container provided that the container does not exceed five gallons in size and the container is kept tightly covered at all times except when accessing the container.

304.3 Closed containers shall be used for the disposal of all VOC-containing cloth, sponges, papers, or other materials used for solvent cleaning.

304.4 All VOC-materials shall be stored in closed containers when not in use.

305 EMISSION CONTROL EQUIPMENT: As an alternative to utilizing materials that comply with the VOC limits in Sections 302 through 304.1, a person may use approved air pollution control equipment provided that the equipment complies with the following:

305.1 The air pollution control equipment is approved by the Air Pollution Control Officer pursuant to Rule 501, General Permit Requirements, and

305.2 The air pollution control equipment is designed and operated with:

305.2.1 A control equipment efficiency of at least 95 percent on a mass basis, as determined pursuant to Sections 408 and 502.5, and

305.2.2 An emission collection efficiency of at least 90 percent on a mass basis, as determined pursuant to Section 502.6.

400 ADMINISTRATIVE REQUIREMENTS

401 PROHIBITION OF SALE: A person shall not supply, sell, solicit, or offer for sale, any noncompliant materials as defined in Section 241. The prohibition in this section shall apply to any material, which will be applied at any physical location within the District.

402 PROHIBITION OF SPECIFICATION: No person shall solicit, require the use of, or specify the application of any material subject to this rule, if the use or application would violate this rule. The prohibition in this section shall also apply to all written or oral contracts under the terms of which any such product or solvent is to be applied within the District.

403 LABELING REQUIREMENTS FOR AEROSOL ADHESIVES: All aerosol adhesives regulated under Section 303 shall comply with the labeling requirements, applicable to aerosol adhesives, specified in the California Consumer Regulations.

404 OPERATION AND MAINTENANCE PLAN: A person using emission control equipment pursuant to Section 305 shall submit an Operation and Maintenance Plan for the emissions control device to the Air Pollution Control Officer for approval. This Plan shall specify operation and maintenance procedures that demonstrate continuous operation and compliance of the emissions control equipment during periods of emissions-producing operations. This Plan shall specify key system operating parameters necessary to determine compliance with this rule and describe in detail procedures to maintain the approved control equipment. The plan shall specify which records must be kept to document these operations and maintenance procedures. The records shall comply with the requirements of Section 501- RECORDKEEPING. This Plan shall be implemented upon approval by the Air Pollution Control Officer.

405 CALCULATION FOR DETERMINING VOC CONTENT OF MATERIAL EXCLUDING WATER AND EXEMPT COMPOUNDS: For the VOC content as applied, the volume of material is defined as the volume of the original material plus any material (e.g., thinners, reducers, or catalysts) added to the original material. The weight of VOC per combined volume of VOC and material solids shall be calculated using the following equation:

$$G_1 = \frac{W_v - W_w - W_{ec}}{V_m - V_w - V_{ec}}$$

Where: G_1 = Weight of VOC per volume of material, less water and exempt compounds, in grams per liter

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W_v	=	Weight of all volatile compounds, including any volatile materials added to the original material supplied by the manufacturer when calculating the VOC content as applied, in grams
W_w	=	Weight of water, in grams
W_{ec}	=	Weight of exempt compounds, in grams
V_m	=	Volume of material, in liters
V_w	=	Volume of water, in liters
V_{ec}	=	Volume of exempt compounds, in liters

- 406 CALCULATION FOR DETERMINING VOC CONTENT OF MATERIAL INCLUDING WATER AND EXEMPT COMPOUNDS:** For the VOC content as applied, the volume of material is defined as the volume of the original material, plus any material added to the original material (e.g., thinners or reducers). For the VOC content as supplied, the volume of material is defined as the volume of the original material. The weight of VOC per total volume of material shall be calculated by the following equation:

$$G_2 = \frac{W_v - W_w - W_{ec}}{V_m}$$

Where:	G_2	=	Weight of VOC per total volume of material, in grams per liter
	W_v	=	Weight of all volatile compounds, in grams
	W_w	=	Weight of water, in grams
	W_{ec}	=	Weight of exempt compounds, in grams
	V_m	=	Volume of material, in liters

- 407 CALCULATION OF PERCENT OF VOC BY WEIGHT:** The percent of VOC by weight is the ratio of the weight of the VOC to the weight of the aerosol adhesive or aerosol adhesive primer as supplied by the manufacturer, expressed as a percent of VOC by weight. The percent of VOC by weight shall be calculated as follows:

$$\text{Percent of VOC by Weight} = \frac{W_{voc}}{W_p} \times 100$$

Where:	W_{voc}	=	Weight of VOCs in grams
	W_p	=	Weight of the adhesive or adhesive primer, as supplied by the manufacturer, in grams.

- 408 CALCULATION FOR DETERMINING PERCENT CONTROL EFFICIENCY AND VOC MASS EMISSION RATE:** The VOC mass emission rate shall be calculated both upstream and downstream of the emissions control device and shall be based on the VOC mass concentration and volumetric flowrate, pursuant to Section 502.5 and the following equations:

408.1 VOC Mass Emission Rate:

$$M = (Q) * (C) * (60 \frac{m}{hr}) \text{ (calculated upstream and downstream)}$$

Where: M	=	VOC mass emission rate (upstream and downstream), in lb/hr.
Q	=	the volumetric flowrate at the inlet (upstream) or exhaust stack outlet (downstream), in standard cubic feet per minute as determined by Section 502.5.
C	=	the VOC mass concentration at the inlet (upstream) or outlet (downstream), in pounds per standard cubic feet, as determined pursuant to Section 502.5.

408.2 The percent control efficiency is calculated as follows:

$$\%CE = \left(\frac{M_u - M_d}{M_u} \right) * 100$$

Where: CE = control efficiency.
M_u = the upstream VOC mass emission rate, in lb/hr.
M_d = the downstream VOC mass emission rate, in lb/hr.

409 **CALCULATION FOR VOC COMPOSITE PARTIAL PRESSURE:** The VOC composite partial pressure is the sum of the partial pressures of the compounds defined as VOCs, and shall be calculated by the following equation:

$$PP_c = \frac{\sum_{i=1}^n \frac{(W_i)(VP_i)}{MW_i}}{\frac{W_w}{MW_w} + \sum_{e=1}^n \frac{W_e}{MW_e} + \sum_{i=1}^n \frac{W_i}{MW_i}}$$

Where: PP_c = VOC composite partial pressure at 20°C, in mm Hg.
W_i = Weight of the "i"th VOC compound, in grams, as determined by ASTM E 260-96
W_w = Weight of water, in grams as determined by ASTM D 3792-99.
W_e = Weight of the "e"th exempt compound, in grams, as determined
MW_i = Molecular weight of the "i"th VOC compound, in grams per g-mole, as given in chemical reference literature.
MW_w = Molecular weight of water, 18 grams per g-mole.
Mw_e = Molecular weight of the "e"th exempt compound, in grams per g-mole, as given in chemical reference literature.
Vp_i = Vapor pressure of the "i"th VOC compound at 20°C, in mm Hg, as determined by Section 502.10 of this rule.

410 **PRODUCT INFORMATION REQUIREMENTS FOR SELLERS:** Any person who sells any material subject to this rule shall make available to the purchaser at the time of sale the following information:

410.1 The material type by name/code/manufacture;

410.2 For materials subject to Section 302: The maximum VOC content of the material as applied. The VOC content shall be displayed as grams of VOC per liter of material (or pounds of VOC per gallon), excluding water and exempt compounds. For low solids materials, the VOC content shall be displayed as grams of VOC per liter of material (or pounds of VOC per gallon), including water and exempt compounds;

410.3 For aerosol adhesives regulated under Section 303: The maximum VOC content as applied. The VOC content shall be displayed as percent by weight;

410.4 For materials subject to Section 304.1: The maximum VOC content and the total VOC composite partial pressure of the material as applied. The VOC content shall be displayed as grams of VOC per liter of material (or pounds of VOC per gallon), including water and exempt compounds as determined pursuant to Section 502.1. The composite vapor pressure shall be displayed in millimeters of mercury at 20 °C (68 °F) as determined pursuant to Section 502.9;

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- 410.5 For all materials subject to Sections 302 and 304.1: Manufacturers' and Suppliers' recommendations regarding thinning, reducing, or mixing.

500 MONITORING AND RECORDS

501 RECORDKEEPING:

In addition to any applicable record-keeping requirements of either Rule 502, New Source Review, Rule 507, Federal Operating Permit Program, Rule 511, Potential to Emit, or any other District rule which may be applicable, any person applying adhesive or sealant products, surface preparation solvents, cleanup solvents, or strippers subject to any provision of this rule shall maintain the following records, for non-exempt materials in order to evaluate compliance:

- 501.1 Product Data: A list of currently used adhesive or sealant products, surface preparation solvents, cleanup solvents, or strippers shall be provided and maintained. The list shall include all of the following items for each material used:

501.1.1 The material's manufacturer, product name, and product number or code.

501.1.2 Classification according to the terminology used in Sections 302, 303, and 304. of this rule (e.g., "PVC Welding Adhesive", "Adhesive Applied to Metal", "Substrate Preparation", "Medical Devices", etc.).

501.1.3 The material's VOC content as applied, determined according to Sections 405, 406 and 407, when used in the mixing ratios recommended by the manufacturer. Labeling of aerosol adhesive containers shall comply with the requirements of Section 403.

501.1.4 The actual mixing ratio, if different from the manufacturer's recommendation, used in applying the material.

- 501.2 Product Usage and Frequency: Any person using materials regulated by this rule shall record and maintain records of the monthly usage of each individual material as listed pursuant to Section 501.1

- 501.3 Emission Control Equipment Records:

501.3.1 A person using emission control equipment as a means of alternate compliance pursuant to Section 305, shall maintain records on a daily basis, showing the type and volume of coatings and solvents used.

501.3.2 A person using emission control equipment as a means of alternate compliance with this rule pursuant to Section 305, shall maintain daily records of key system operating and maintenance procedures which will demonstrate continuous operation and compliance of the emission control system during periods of emission-producing activities. Key system operating parameters are those necessary to ensure compliance with the requirements of Section 305, and are defined in Section 233.

- 501.5 Retention of Records: All records required by this rule shall be retained for at least three years, except for sources subject to Rule 507, Federal Operating Permit Program, which shall be retained for at least five years. Such records shall be made available to the Air Pollution Control Officer upon request.

502 TEST METHODS:

- 502.1 Determination of VOC Content: Except as provided in Sections 502.2 and 502.3, VOC content of non-aerosol adhesive or sealant products, surface preparation solvents, cleanup solvents, or strippers shall be determined in accordance with United States Environmental Protection Agency Method 24 or United States Environmental Protection Agency Method 24A.
- 502.2 Determination of VOC Content of Aerosol Adhesives Primers: The VOC content of aerosol adhesive primers shall be determined using South Coast Air Quality Management District Test Method 305 for aerosol coatings, California Air Resources Board Method 310, "Determination of Volatile Organic Compounds (VOC) in Consumer Products", or equivalent methods approved by the United States Environmental Protection Agency.
- 502.3 Determination of VOC Content of Plastic Welding Cement Adhesive/Primer: The VOC content of ABS, CPVC, PVC, or other plastic welding cement adhesive or any plastic welding cement primer shall be determined by using the South Coast Air Quality Management District's "Determination of Volatile Organic Compounds (VOC) in Materials Used for Pipes and Fittings", Method 316a.
- 502.4 Determination of Compounds Exempt From VOC Definition: Exempt compounds referenced in Section 224 and listed in Rule 102, Definitions, shall be determined in accordance with ASTM D 4457-85 or California Air Resources Board Method 432. If any of the perfluorocarbons or volatile cyclic and linear methyl siloxanes are being claimed as exempt compounds, the person making the claim must state in advance which compounds are present, and the United States Environmental Protection Agency approved test method used to make the determination of these compounds.
- 502.5 Determination of Control Efficiency: Control efficiency of emissions control equipment shall be determined in accordance with United States Environmental Protection Agency Method 18, 25, or 25A; or United States Environmental Protection Agency Method 2 or 2C (whichever is applicable).
- 502.6 Determination of Collection Efficiency: Efficiency of the collection system shall be determined in accordance with the United States Environmental Protection Agency's "Guidelines for Determining Capture Efficiency, January 9, 1995". Individual collection efficiency test runs subject to the United States Environmental Protection Agency's technical guidelines shall be determined by:
- 502.6.1 Applicable U.S. EPA methods 204, 204A, 204B, 204C, 204E, and/or 204F; or
- 502.6.2 The South Coast Air Quality Management District "Protocol for Determination of Volatile Organic Compound (VOC) Capture Efficiency"; or
- 502.6.3 Any other method approved by the U.S. EPA, the California Air Resources Board, and the Air Pollution Control Officer.
- 502.7 Determination of VOC Content of Emissions: The VOC content of emissions shall be determined by United States Environmental Protection Agency Method 18.
- 502.8 Determination of Plasticizer Content: The test method used to determine plasticizer content of flexible vinyls shall be ASTM Method E260-73, "General Gas Chromatography Procedures".

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- 502.9 Determination of VOC Composite Partial Pressure: VOC composite partial pressure shall be determined in accordance with ASTM E260-91 for organic compounds, and ASTM D 3792-86 for water content as applicable, and Sections 409, and 502.10 of this rule.
- 502.10 Determination of Vapor Pressure: Vapor pressure of a VOC shall be determined in accordance with ASTM Method D2879-86, or may be obtained from standard reference texts, such as:
- 502.10.1 "The Vapor Pressure of Pure Substances", Boublik, Fried, and Hala; Elsevier Scientific Publishing Company, New York.
 - 502.10.2 "Perry's Chemical Engineer's Handbook", McGraw-Hill Book Company.
 - 502.10.3 "CRC Handbook of Chemistry and Physics", Chemical Rubber Publishing Company.
 - 502.10.4 "Lange's Handbook of Chemistry", John Dean, editor, McGraw-Hill Book Company.
- 502.11 Determination Of VOC Content Of Cyanoacrylate Adhesives: The VOC content of cyanoacrylate adhesives shall be determined by the South Coast Air Quality Management District's Method 316B.

RULE 236 WOOD PRODUCTS COATING OPERATIONS

Adopted 11-03-94
(Amended 2-09-95, 4-10-97, 8-14-97)

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100 GENERAL

101 PURPOSE: To establish limits on the emission of volatile organic compounds (VOC) from coatings and strippers used on wood products, and from products used in surface preparation and cleanup.

102 APPLICABILITY:

102.1 Geographic: The provisions of this rule apply only to facilities located in the Sacramento Valley Air Basin portion of Placer County, as defined by California Code of Regulations, Title 17, Division 3, Chapter 1, Subchapter 1.5, Article 1, Section 60106.

102.2 Business Category: The provisions of this rule shall apply to any person who uses, manufactures, blends, sells, repackages, distributes, or specifies wood products coatings and/or strippers to be used for the coating and/or surface preparation of wood products, including furniture, cabinets, and custom replica furniture.

103 EXEMPTIONS:

103.1 Exemption, Residential: Residential non-commercial operations are exempt from all provisions of this rule.

103.2 Exemption, Non-Shop Architectural Coating Operations: The coating of stationary structures and their appurtenances in a non-shop environment, is subject to Rule 218, Architectural Coatings, and is exempt from all provisions of this rule.

103.3 Exemption, Aerosol Spray Coatings: Aerosol wood products coatings sold in non-refillable aerosol containers are exempt from all provisions of this rule.

103.4 Exemption, Panels and Siding: The factory application of wood products coatings in the manufacturing of finished wood panels intended for attachment to the inside walls of buildings, including, but not limited to, homes and office buildings, mobile homes, trailers, prefabricated buildings and similar structures, is subject to Rule 238, Factory Coating of Flat Wood Paneling, and is exempt from all provisions of this rule.

103.5 Exemption, Other: The application of coatings by template or stencil to add designs, letters or numbers to wood products, and the application of coatings to wooden musical instruments are exempt from all provisions of this rule.

103.6 Partial Exemption, Low Volume: Businesses using less than 55 gallons per year of wood products coatings and/or strippers (singly or in any combination) are exempt from all provisions of this rule with the exception of Section 501, USAGE RECORDS.

103.7 Partial Exemption, Specific Finishes: Coatings used to produce the following finishes are exempt from the provisions of Sections 302, 303 and 304, provided that records are maintained as specified in Section 501:

103.7.1 Crackle lacquers.

103.7.2 Faux finishes.

103.7.3 Imitation wood grain.

103.7.4 Leaf Finishes.

103.8 Exemption From Requirements of Other District Rules: Any wood products coating, stripper or cleaning solvent subject to the VOC limitations of this rule, Sections 302, 303, and 304, is exempt from the requirements of Rule 219, Organic Solvents.

200 DEFINITIONS

- 201 AEROSOL-SPRAY COATING:** A coating which is sold in a hand-held, pressurized, non-refillable container of 1 liter (1.1 quarts) or less, and which is expelled from the container in a finely divided spray when a valve on the container is depressed.
- 202 AFFECTED POLLUTANT:** Volatile organic compounds (VOC), as defined in Section 249.
- 203 AIR ASSISTED AIRLESS SPRAY:** Equipment used to apply coatings that uses fluid pressure to atomize coating and air pressure between 0.1 and 20 psig to adjust the spray pattern.
- 204 BINDERS:** Non-volatile polymeric organic materials (resins) which form surface film in coating applications.
- 205 CAPTURE EFFICIENCY:** Expressed in percent, capture efficiency is the ratio of the weight of the VOC in the effluent stream entering a control device to the weight of the VOC emitted from wood product coating operations, both measured simultaneously in accordance with Section 503.4, and calculated by the following equation:

$$\text{Capture Efficiency} = \frac{W_c}{W_e} \times 100$$

Where: W_c = Weight of VOC entering the control device
 W_e = Weight of VOC discharged from the coating operations.

- 206 CLEANUP MATERIAL:** A VOC-containing material used to clean application equipment used in wood products coating operations.
- 207 CLEAR TOPCOAT:** The final coating which contains binders, but not opaque pigments, and is specifically formulated to form a transparent or translucent solid protective film.
- 208 CLOSED CONTAINER:** A container which has a cover where the cover meets with the main body of the container without any gaps between the cover and the main body of the container.
- 209 COATING:** A material which is applied to a surface and which forms a film in order to beautify and/or protect such surface. "Coating" includes, but is not limited to, materials such as topcoats, stains, sealers, fillers, conversion varnish, pigmented coating, multicolored coating, moldseal coating, washcoat, and toner.
- 210 CONTROL DEVICE EFFICIENCY:** Expressed in percent, control device efficiency is the ratio of the weight of the VOC removed by the control device from the effluent stream entering the control device to the weight of VOC in the effluent stream entering the control device, both measured simultaneously in accordance with Section 503.5, and calculated by the following equation:

$$\text{Control Device Efficiency} = \frac{(W_c - W_a)}{W_c} \times 100$$

Where: W_c = Weight of VOC entering the control device
 W_a = Weight of VOC discharged from the control device

- 211 CONVERSION VARNISH:** A coating comprised of a homogeneous (alkyd-amino resin) liquid which, when acid catalyzed and applied, hardens upon exposure to air or heat, by evaporation and polymerization, to form a continuous film that imparts protective or decorative properties to wood surfaces. When used as a self sealing system or as a

pigmented coating, conversion varnish shall not be subject to the July 1, 2005 VOC limit for Sealers or for Pigmented Coatings, as specified in section 302.

- 212 CRACKLE LACQUER:** A clear or pigmented topcoat intended to produce a cracked or crazed appearance when dry.
- 213 DETAILING OR TOUCH-UP GUN:** Small air spray equipment, including air brushes, that operates at no greater than five (5) cfm air flow and no greater than 50 psig air pressure and is used to repair or touch-up portions of wood products.
- 214 DIP COAT:** A coating which is applied by dipping an object into a vat of coating material and allowing any excess coating material to drain off.
- 215 ELECTROSTATIC APPLICATION:** The electrical charging of atomized coating droplets for deposition by electrostatic attraction.
- 216 EMISSIONS UNIT:** An identifiable operation or piece of process equipment such as an article, machine, or other contrivance which controls, emits, may emit, or results in the emissions of any affected pollutant directly or as fugitive emissions
- 217 EMISSION CONTROL SYSTEM:** A system for reducing emissions of VOC from coating operations. It consists of (1) equipment which captures drying oven exhaust and fugitive emissions from the line and transports them to the control device, and (2) a VOC control device which destroys the VOC or otherwise limits the emission of VOC to the atmosphere. The capture efficiency and the control device efficiency are calculated in accordance with Sections 205 and 210, respectively.

The Emission Control System Efficiency is calculated by the following equation:

$$\text{Efficiency, \%} = \frac{\text{Capture Efficiency, \%} \times \text{Control Device Efficiency, \%}}{100}$$

218 ENCLOSED GUN CLEANER:

- 218.1 A device that is used for the cleaning of spray guns, pots and hoses, that has an enclosed solvent container, is not open to the ambient air when in use, and has a mechanism to force the cleanup material through the gun while the cleaner is in operation; or
- 218.2 A device that is used for the cleaning of spray guns, pots and hoses, that has an enclosed solvent container, uses non-atomized solvent flow to flush the spray equipment and collects and returns the discharged solvent to the enclosed container

- 219 EXEMPT COMPOUNDS:** For the purposes of this rule, Exempt Compounds are as described in Rule 102, Definitions.
- 220 FAUX FINISH:** A finish intended to simulate a surface other than wood, including stone, sand, slate, marble, metal, metal flake or leather.
- 221 FILLER:** A preparation used to fill in cracks, grains, etc., of wood before applying a coating.
- 222 FLOW COATING:** A coating application system where paint flows over the part and the excess coating drains back into the collection system.
- 223 HIGH-SOLIDS:** A coating containing more than one (1) pound of solids per gallon of coating, by weight and which can include wiping stains, glazes, and opaque stains.
- 224 HIGH-VOLUME-LOW-PRESSURE (HVLP) SPRAY:** Equipment used to apply coatings by means of a spray gun which is designed to be operated and which is operated between 0.1

and 10 psig air pressure measured dynamically at the center of the air cap and at the air horns.

- 225 IMITATION WOOD GRAIN:** A hand applied finish that simulates the appearance of a specific natural wood grain.
- 226 INK:** A fluid that contains dyes and/or colorants and is used to make markings but not to protect surfaces.
- 227 LEAF FINISH:** A finish used in conjunction with metal leaf or foil.
- 228 LOW-SOLIDS COATING:** A coating containing one (1) pound of solids per gallon of coating or less, by weight and which can include semi-transparent stains, toners, and washcoats.
- 229 LOW-VOLUME, LOW-PRESSURE (LVLP) EQUIPMENT:** Spray coating application equipment with air pressure between 0.1 and 10.0 psig and air volume less than 15.5 cfm per spray gun and which operates at a maximum fluid delivery pressure of 50 psig.
- 230 MOLD-SEAL COATING:** The initial coating applied to a new mold or repaired mold to provide a smooth surface which, when coated with a mold release coating, prevents products from sticking to the mold.
- 231 MULTI-COLORED COATING:** A coating which exhibits more than one (1) color when applied and which is packaged in a single container and applied in a single coat.
- 232 NEW WOOD PRODUCT:** A wood product which has not been previously coated or a wood product from which uncured coatings have been removed to repair flaws in initial coatings applications.
- 233 NON-SHOP ARCHITECTURAL COATING OPERATIONS:** The commercial application of coatings to stationary structures and/or their appurtenances, to mobile homes, to pavements, or to curbs, and not conducted inside, or on the premises of, a factory or shop building facility.
- 234 OPAQUE STAINS:** Stains not classified as semitransparent stains, which contain pigments which give character to wood.
- 235 PIGMENTED COATINGS:** Opaque coatings which contain binders and colored pigments which are formulated to hide the wood surface, either as an undercoat or topcoat.
- 236 REACTIVE DILUENT:** A liquid component of a coating which is a VOC during application, and one in which, through chemical or physical reactions, such as polymerization, becomes an integral part of a finished coating.
- 237 REFINISHING OPERATION:** The steps necessary to remove cured coatings and to repair, preserve, or restore a wood product.
- 238 REPAIR:** Recoating portions of previously coated product to cover mechanical damage to the coating following normal painting operations.
- 239 ROLL COATER:** A series of mechanical rollers that forms a thin coating film on the surface of roller, which is applied to a substrate by moving the substrate underneath the roller.
- 240 SEALER:** A coating containing binders, which seals the wood prior to application of the subsequent coatings.
- 241 SEMITRANSSPARENT STAIN:** A stain containing dyes and/or semi-transparent pigments which are formulated to enhance wood grain and change surface color but not to conceal surface grain, and include sap stain and non-grain raising stains. Semitransparent stains with greater than one (1) pound of solids per gallon of coating shall be considered opaque stains.

- 242 SIMULATED WOOD MATERIALS:** Materials, such as plastic, glass, metal, etc., that are made to give a wood-like appearance or are processed like a wood product.
- 243 STENCIL COATING:** An ink or a pigmented coating which is rolled or brushed onto a template or stamp in order to add identifying letters and/or numbers to wood products.
- 244 STRIPPER:** A liquid used to remove cured coatings, cured inks, and/or cured adhesives.
- 245 SURFACE PREPARATION MATERIAL:** A VOC-containing material applied to the surface of any wood product, prior to the application of coatings, to clean the wood product or to promote the adhesion of subsequent coatings.
- 246 TONER:** A wash coat which contains binders and dyes or pigments to add tint to a coated surface.
- 247 TOUCH-UP:** A coating used to cover minor coating imperfections appearing after the main coating operation.
- 248 VOC COMPOSITE PARTIAL VAPOR PRESSURE:** VOC composite partial vapor pressure for determination of compliance with Section 304 shall be calculated by the following

$$PP_c = \frac{\sum_{i=1}^n (W_i)(VP_i) / MW_i}{\frac{W_w}{MW_w} + \frac{W_e}{MW_e} + \sum_{i=1}^n WSUB \frac{i}{MW_i}}$$

equation:

Where:

PP_c	=	VOC composite partial pressure at 20°C, in mm mercury.
W_i	=	Weight of the "I" _{th} VOC compound, in grams.
W_w	=	Weight of water, in grams.
W_e	=	Weight of exempt compounds, in grams.
MW_i	=	Molecular weight of the "I" _{th} VOC compound, in (g/g-mole).
MW_w	=	Molecular weight of water, in (g/g-mole).
MW_e	=	Molecular weight of exempt compound, in (g/g-mole).
Vp_i	=	Vapor pressure of the "I" _{th} VOC compound at 20°C, in mm mercury.

- 249 VOLATILE ORGANIC COMPOUND (VOC):** Any chemical compound containing at least atom of carbon, except for the Exempt Compounds listed in Rule 102, Definitions.
- 250 VOC CONTENT PER LITER OF COATING, LESS WATER AND EXEMPT COMPOUNDS:** The weight of VOC per combined volume of VOC and coating solids, shall be calculated by the following equation:

$$G_l = \frac{W_v - W_w - W_{ec}}{V_m - V_w - V_{ec}}$$

Where:

G_l	=	Weight of VOC per liter of coating, less water and less exempt compounds.
W_v	=	Weight of volatile compounds, in grams.
W_w	=	Weight of water, in grams.
W_{ec}	=	Weight of exempt compounds, in grams.
V_m	=	Volume of coating material, in liters.
V_w	=	Volume of water, in liters.
V_{ec}	=	Volume of exempt compounds, in liters.

- 251 VOC CONTENT PER LITER OF MATERIAL:** The weight (in grams) of VOC per liter of wood products coating material is expressed as Grams VOC per Liter of Material, and shall be calculated using the following

$$\text{Weight of VOC per volume of material} = \frac{(W_v W_w W_{ec})}{V_m}$$

Where:

W_v	=	Weight of all volatile compounds, in grams
W_w	=	Weight of water, in grams
W_{ec}	=	Weight of compounds listed as exempt from the definition of VOC, in Section 218, in grams
V_m	=	Volume of material, including any added VOC-containing solvents or reducers but excluding any colorants added to tint the base, in liters

252 VOC CONTENT PER POUND OF COATING SOLIDS: Pounds of VOC per pound of coating solids is the weight of VOC per weight of coating solids in any given coating material, and shall be calculated by the test method found in Section 503.1 and the following equation:

$$252.1 \quad \text{Pounds of VOC per Pound of Solids} = \frac{W_s - W_w - W_{es}}{W_r}$$

Where:

W_s	=	Weight of volatile compounds, in pounds
W_w	=	Weight of water, in pounds
W_{es}	=	Weight of exempt compounds, in pounds
W_r	=	Weight of coating solids, in pounds

252.2 For coatings that contain **reactive diluents**, the VOC content of the coating is determined **after curing**. For these coatings, the pounds of VOC per pound of coating solids shall be calculated by the test method found in Section 503.1 and the following equation:

$$\text{Pounds of VOC per Pound of Solids} = \frac{W_s - W_w - W_{es}}{W_r}$$

Where:

W_s	=	Weight of volatile compounds in pounds, emitted into the atmosphere during curing
W_w	=	Weight of water in pounds, emitted into the atmosphere during curing
W_{es}	=	Weight of exempt compounds in pounds, emitted into the atmosphere during curing
W_r	=	Weight of coating solids in pounds, prior to reaction

253 WASH COAT: A coating, containing binders, which penetrates into and seals wood, prevents undesired staining, and seals in wood pitch. Washcoats with greater than one (1) pound of solids per gallon of coating shall be considered sealers.

254 WOOD PANEL: Any piece of wood, or wood composition, which is solid or laminated, and which is larger than 10 square feet in size, and which is not subsequently cut into smaller pieces.

255 WOOD PRODUCTS: Surface-coated objects such as cabinets (kitchen, bath and vanity), tables, chairs, beds, sofas, shutters, doors, trim, containers, tools, ladders, art objects, and any other objects made of solid wood and/or wood composition and/or of simulated wood material used in combination with solid wood or wood composition.

256 WOOD PRODUCT COATING APPLICATION OPERATIONS: A combination of coating application steps which may include use of spray guns, flash-off areas, spray booths, ovens,

conveyors, and/or other equipment operated for the purpose of applying coating to wood products.

300 STANDARDS

301 APPLICATION EQUIPMENT REQUIREMENTS: A person subject to the provisions of this rule shall not apply any wood product coating to any wood products, unless one of the following application methods is used:

- a. Hand application methods, such as brush or roller
- b. Roll coater
- c. Dip coat
- d. Flowcoat
- e. High Volume Low Pressure spray equipment
- f. Low Volume Low Pressure spray equipment
- g. Air assisted airless, for touch-up and repair only
- h. Electrostatic application equipment
- i. Any other equivalent method which has been approved in writing by the Air Pollution Control Officer and the U.S. Environmental Protection Agency

302 LIMITS FOR VOC CONTENT OF COATINGS FOR NEW WOOD PRODUCTS: Except as provided in Sections 103, 305, and 306 no person shall apply any coatings to a new wood product, or use VOC-containing solvents, if such materials have a VOC content exceeding the applicable limits specified in the following table. The VOC content of coatings, except low-solid stains, toners, washcoats and solvents, shall be determined in accordance with Sections 250 and 503.1. The VOC content of low-solid stains, toners washcoats and solvents, shall be determined in accordance with Sections 251 and 503.1.

302.1 If the emission averaging provisions of Section 306 are not used to achieve compliance with this section, VOC limits expressed in Grams VOC Per Liter of Coating shall be used.

302.2 If the emission averaging provisions of Section 306 are used to achieve compliance with this section, VOC limits expressed in Pounds VOC Per Pound of Solids, in accordance with Section 252, shall be used.

(Section 302 Continues With The Following Table)

LIMITS FOR VOC CONTENT OF COATINGS FOR NEW WOOD PRODUCTS

SPECIFIC MATERIAL	VOC LIMITS Grams VOC Per Liter of Coating <u>Less Water and Exempt Compounds</u> , as defined in Section 250 (Pounds VOC Per Pound of Solids, which applies only if Emission Averaging is used, as defined in Section 252)	
	BEFORE JULY 1, 2005	EFFECTIVE JULY 1, 2005
Clear Topcoats	550 (1.37)	275 (0.35)
Conversion Varnish	550 (1.37)	550 (1.20) *
Filler	500 (0.66)	275 (0.18)
High-Solid Stain	550 (1.23)	350 (0.42)
Inks	500 (0.96)	500 (0.96)
Mold-Seal Coating	750 (4.20)	750 (4.20)
Multi-colored Coating	685 (2.60)	275 (0.33)
Pigmented Coating	550 (1.10)	275 (0.25) *
Sealer	550 (1.39)	275 (0.36) *
	VOC LIMITS Grams VOC per Liter of <i>Material</i> , as defined in Section 251 (Pounds VOC per Pound of Solids, which applies only if Emission Averaging is used, as defined in Section 252)	
Low Solid Stains, Toners and Washcoats	BEFORE JULY 1, 2005	EFFECTIVE JULY 1, 2005
	480 (4.0)	120 (1.00)
	VOC LIMITS Grams VOC Per Liter of <i>Material</i> (Pounds Per Gallon)	
Surface Prep and Clean-up Solvents Containing VOC's	BEFORE JULY 1, 2005	EFFECTIVE JULY 1, 2005
	200 (1.67)	200 (1.67)

* (See Section 211 for special conditions for Conversion Varnish)

302.3 Notwithstanding the VOC limits specified in this section, a person may apply a sealer with a VOC content not exceeding 680 grams/liter, provided that the topcoat used on the same wood product does not exceed 275 grams/liter.

303 **LIMITS FOR VOC CONTENT OF COATINGS FOR REFINISHING, REPAIRING, PRESERVING, OR RESTORING WOOD PRODUCTS:** Except as provided in Sections 103, 305, and 306 no person shall apply any coatings to refinish, repair, preserve, or restore a wood product, or use VOC-containing solvents, if such materials have a VOC content exceeding the applicable limits specified in the following table. The VOC content of coatings, except low-solid stains, toners, and washcoats, shall be determined in accordance with Sections 250 and 503.1. The VOC content of low-solid stains, toners and washcoats and VOC-containing solvents shall be determined in accordance with Sections 251 and 503.1.

303.1 If the emission averaging provisions of Section 306 are not used to achieve compliance with this section, VOC limits expressed in grams per liter shall be used.

303.2 If the emission averaging provisions of Section 306 are used to achieve compliance with this section, VOC limits expressed in pounds of VOC per pound of solids, in accordance with Section 252, shall be used.

LIMITS FOR VOC CONTENT OF COATINGS TO REFINISH, REPAIR, PRESERVE OR RESTORE

SPECIFIC MATERIAL	VOC LIMITS Grams VOC Per Liter of Coating <u>Less Water and Exempt Compounds</u> , as defined in Section 250 (Pounds VOC Per Pound of Solids [applies only if Emission Averaging is used], as defined in Section 252)
Clear Topcoats	680 (2.50)
Conversion Varnish	550 (1.20) *
Filler	500 (0.96)
High-Solid Stain	700 (2.57)
Inks	500 (0.96)
Mold-Seal Coating	750 (4.20)
Multi-colored Coating	680 (2.50)
Pigmented Coating	600 (1.60) *
Sealer	680 (2.50) *
	VOC LIMIT Grams VOC Per Liter of <i>Material</i> , as defined in Section 251 (Pounds VOC Per Pound of Solids [applies only if Emission Averaging is used], as defined in Section 252)
Low Solid Stains, Toners and Washcoats	480 (0.76)
	VOC LIMIT Grams VOC Per Liter of Material (Pounds VOC Per Gallon)
Surface Prep and Clean-up Solvents Containing VOC's	200 (1.67)

* (See Section 211 for special conditions for Conversion Varnish)

304 LIMITS OF VOC CONTENT FOR STRIPPERS: A person shall not use a stripper on wood products unless:

- 304.1 The stripper contains less than 350 grams of VOC per liter of material; **or**
- 304.2 the VOC composite partial vapor pressure for the stripper is 2 mm mercury (0.04 psia) or less at 20°C (68°F), as calculated pursuant to Section 248.

305 EMISSION CONTROL SYSTEM:

- 305.1 As an alternative, a person may comply with the VOC limits specified in Sections 302, 303, and 304, by using an approved air pollution control system consisting of a capture system and a control device, which reduces VOC emissions from the application of wood products coatings or strippers by an equivalent or greater amount than the limits specified in Sections 302, 303, and 304, with the written approval of the Air Pollution Control Officer. In order to achieve an equivalent or greater level of VOC reduction, the minimum allowable Emission Control System Efficiency of such a system, when calculated pursuant to Section 217, shall be the efficiency calculated by the following equation:

$$C.E. = 1 - \left(\frac{VOC_{LWc}}{VOC_{LWnMax}} \right) \times \frac{(1 - (VOC_{LWnMax} / (D_{nMax})))}{(1 - (VOC_{LWc} / D_c))} \times 100$$

Where:	C.E.	=	Minimum allowable Emission Control System Efficiency, percent.
	VOC _{LWc}	=	VOC Limit of Rule 236, less water and less exempt compounds, pursuant to Sections 302, 303, and/or 304.
	VOC _{LWn,Max}	=	Maximum VOC content of non-compliant coating used in conjunction with a control device, less water and less exempt compounds.
	D _{n,Max}	=	Density of solvent, reducer, or thinner contained in the non-compliant coating, containing the maximum VOC content of the multi component coating, g/L.
	D _c	=	Density of corresponding solvent, reducer, or thinner used in the compliant coating system. [= 880 g/L.]

- 305.2 The capture system shall vent all drying oven exhaust to the control device and shall have one or more inlets for collection of fugitive emissions; and
- 305.3 During any period of operation of a thermal incinerator, combustion temperature shall be continuously monitored; and
- 305.4 During any period of operation of a catalytic incinerator, exhaust gas temperature shall be continuously monitored; and
- 305.5 Written approval for the use of such equipment is obtained from the Air Pollution Control Officer prior to installation or use of the equipment.

306 EMISSIONS AVERAGING PROVISIONS:

306.1 A person may comply with the provisions of Sections 302, 303, and 304 by using an averaging approach for all or a portion of the coatings used at the facility, provided that all requirements of this Section are met.

306.1.1 Standard: A person using the provisions of this Section for compliance shall demonstrate that emissions from the coatings being averaged, on a pounds of VOC per pounds of solids basis, on a rolling 30-day basis, are less than or equal to 90 percent of the allowable emissions, based on the following:

$$0.9 \sum_{i=1}^n VOC_i (U_i) \geq \sum_{i=1}^n ER_i (U_i)$$

Where:

VOC_i = VOC content limit of coating AI@ (grams of VOC per liter of material for low solids coatings and pounds of VOC per pound of solids for all other coatings, as required in Sections 302, 303, or 304).

U_i = Usage of coating AI@ (liters of material for low-solids coatings, and pounds of solids for all other coatings), and

ER_i = Actual VOC content of coating AI@, as applied (grams per liter for low-solids materials and pounds of VOC per pounds of solids for all other coatings).

306.1.2 Conditions: The 0.9 multiplier above is applicable only to facilities that are subject to Rule 507 Federal Operating Permit Program, and is not applicable after July 1, 2005. Any wood product coating not included in the emissions averaging shall comply with the VOC limits in Sections 302, 303, or 304.

307 REQUIREMENTS FOR SURFACE PREPARATION AND CLEANUP MATERIALS: Any person subject to this rule shall comply with the following requirements:

307.1 Spray gun nozzles only, may be soaked in solvent-based materials for cleaning, provided the container (not to exceed five (5) gallons in size) is kept tightly covered at all times except when accessing the container.

307.2 Closed containers shall be used for the disposal of cloth or paper used for surface preparation, cleanup, and coating removal.

307.3 VOC-containing materials shall be stored in containers, which are closed when not in use, and shall be disposed of in a manner that the VOC's are not emitted into the atmosphere.

307.4 A person shall not use solvent-based VOC-containing materials for the cleanup of spray equipment used in wood products coating application operations, unless the spray equipment is disassembled and cleaned in an enclosed gun cleaner.

307.5 A person shall not perform surface preparation or cleanup with a material containing VOC's in excess of 200 grams per liter (1.67 pounds per gallon) in accordance with VOC limit standards in Sections 302 and 303.

400 ADMINISTRATIVE REQUIREMENTS

401 PROHIBITION OF SPECIFICATION: No person shall require for use or specify the application of any coating subject to the provisions of this rule that does not meet the limits and requirements of this rule. The prohibition of this Section shall apply to all written or oral contracts under the terms of which any coating is to be applied to any wood product at any physical location within the District.

402 LABELING REQUIREMENTS, VOC CONTENT: Each container of any coating, surface preparation material, or cleanup material, or stripper manufactured after July 1, 1997 shall display its maximum VOC content of the coating, as applied, and after any thinning as recommended by the manufacturer, or shall have this information provided in a product data sheet supplied with the container. VOC content shall be displayed as grams of VOC per liter of coating (less water and less exempt solvent, and excluding any colorant added to tint bases), surface preparation and cleanup material, or stripper. VOC content displayed may be calculated using product formulation data, or may be determined using the test method in Section 503.1. Alternatively, containers for strippers subject to the provisions of Section 304 may display only the partial vapor pressure.

403 EMISSIONS AVERAGING PLAN:

403.1 A person wanting to use the emissions averaging provisions of Section 306 to achieve compliance with this rule shall submit an Emissions Averaging Plan ("Plan") for approval by the Air Pollution Control Officer. The Plan may not be implemented until it is approved, in writing, by the Air Pollution Control Officer. Submittal of a Plan does not provide an exemption from the requirements of this rule. The Plan must be resubmitted, for approval by the Air Pollution Control Officer on an annual basis. If the Plan is not approved, emissions averaging will not be permitted.

403.2 The Plan shall include, at a minimum:

403.2.1 A description of the wood product coatings to be included in the averaging program, **and**

403.2.2 A description of the quantification and record keeping for coating usage, coating VOC and solids content, VOC emissions, and calculations to show compliance with Section 306.

404 OPERATION AND MAINTENANCE PLAN: A person using an emission control system pursuant to Section 305, as a means of alternate compliance with this rule, as provided in Sections 302, 303 and 304, must submit an Operation and Maintenance Plan for the emission control system to the Air Pollution Control Officer for approval. A person proposing to install a new emission control system as a means of alternate compliance with this rule shall submit in addition to an Operation and Maintenance Plan, an application for Authority to Construct, pursuant to Rule 501, General Permit Requirements. The Plan shall specify operating and maintenance procedures which will demonstrate continuous operation of the emission control system during periods of emissions-producing operations. The Plan shall also specify which records must be kept to document these operating and maintenance procedures. These records shall comply with the requirements of Sections 501 and 502. The Plan shall be implemented upon approval of the Air Pollution Control Officer.

405 FEASIBILITY AND TECHNOLOGY ASSESSMENT: By July 1, 2003, the Air Pollution Control Officer shall assess the feasibility of the July 1, 2005 VOC limits and whether new technology could provide additional emissions reductions to meet the District's Air Quality Management Plan objectives.

500 MONITORING AND RECORDS

501 RECORDKEEPING: In addition to any applicable record keeping requirements of either Rule 502, New Source Review, Rule 507, Federal Operating Permit Program, and Rule 511, Potential to Emit, or any other District rule which may be applicable, any person subject to this rule shall maintain the following records in order to evaluate compliance:

501.1 Product Data:

- 501.1.1 A data sheet, material list, or invoice giving material name, manufacturer identification, material application, and VOC content;
- 501.1.2 Any catalysts, reducers, or other components used, and the mix ratio;
- 501.1.3 the applicable VOC limit from Section 302 or 303 and the actual VOC content of the wood product coating as applied.

501.2 Product Usage and Frequency:

- 501.2.1 For persons using coatings or materials which comply with the VOC limits specified in Sections 302, 303, and 304, records shall be maintained on a monthly basis, showing the type and volume of coatings, strippers and surface preparation and cleanup materials used. Coating type shall be designated according to the coating categories as listed in Sections 302, 303, and 304.
- 501.2.2 For coatings used in emissions averaging pursuant to Section 306, daily records shall be maintained, showing the type and volume of coatings, strippers and surface preparation and cleanup materials used.
- 501.2.3 If at any time a person uses coatings or materials exceeding the VOC limits specified in Sections 302, 303, and 304, records shall be maintained on a daily basis showing the type and volume of materials used.

501.3 Emission Control System:

- 501.3.1 A person using an emission control system as a means of alternate compliance pursuant to Section 305, shall maintain records on a daily basis, showing the type and volume of coatings and solvents used.
- 501.3.2 A person using an emission control system as a means of alternate compliance with this rule pursuant to Section 305, shall maintain daily records of key system operating and maintenance procedures which will demonstrate continuous operation and compliance of the emission control system during periods of emission-producing activities. Key system operating parameters are those necessary to ensure compliance with the requirements of Section 305.

502 RETENTION OF RECORDS: All records required by this rule shall be retained for at least three years, except for sources subject to Rule 507, Federal Operating Permit Program, which shall be retained for at least five years. Such records shall be made available to the Air Pollution Control Officer upon request.

503 TEST METHODS

- 503.1 Determination of VOC Content: VOC content of wood product coatings, strippers, and surface preparation and cleanup materials, subject to this rule, shall be determined in accordance with United States Environmental Protection Agency (U.S. EPA) Method 24 and Sections 250, 251 or 252 of this rule, as applicable.
- 503.2 Determination of Composition of VOC: The composition of VOC shall be as specified on the manufacturer's label or data sheet, or as determined by ASTM Method E-260, General Gas Chromatograph.
- 503.3 Determination of Compounds Exempt From VOC Definition: Exempt Compounds per Section 219 of this rule, and as defined in Rule 102, Definitions, shall be determined in accordance with ASTM D-4457-85, or ARB Method 432. If any of the perfluorocarbons or volatile cyclic and linear methyl siloxanes are being claimed as exempt compounds, the person making the claim must state in advance which compounds are present, and the U.S. EPA-approved test method used to make the determination of these compounds.
- 503.4 Determination of Capture Efficiency: Efficiency of the capture system shall be determined in accordance with U.S. EPA "Guidelines for Determining Capture Efficiency, January 9, 1995". Individual capture efficiency test runs subject to the U.S. EPA technical guidelines, calculated in accordance with Section 205, shall be determined by:
- 503.4.1 Applicable U.S. EPA methods 204, 204A, 204B, 204C, 204E, and/or 204F; or
- 503.4.2 The South Coast Air Quality Management District "Protocol for Determination of Volatile Organic Compound (VOC) Capture Efficiency"; or
- 503.4.3 Any other method approved by the U.S. EPA, the California Air Resources Board, and the Air Pollution Control Officer.
- 503.5 Determination of Control Device Efficiency: Efficiency of the emission control device shall be based upon test measurements made in accordance with (1) U.S. EPA Method 18, 25 or 25A, for VOC concentration, and (2) U.S. EPA Method 2 or 2C for flow rates, as applicable, and calculated in accordance with Section 210.
- 503.6 Vapor Pressure: Vapor pressures may be obtained from standard reference texts or may be determined by ASTM D-2879.
- 503.7 Volatile Content of Radiation Curable Materials: Volatile content of radiation curable materials shall be obtained in accordance with ASTM Method D-5403-93.

RULE 237 MUNICIPAL LANDFILLS

Adopted 11-03-94
(Amended 02-09-95, 08-14-97, 10-09-03)

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100 GENERAL

101 PURPOSE: To limit non-methane organic compounds (NMOC) emissions from municipal solid waste (MSW) landfills by implementing the provisions of 40 Code of Federal Regulations (CFR) Part 60, Subpart Cc Emission Guidelines and Compliance Times for MSW Landfills.

102 APPLICABILITY:

102.1 Geographic: The provisions of this rule shall apply to all facilities located in Placer County.

102.2 Business Category: The provisions of this rule shall apply to all Municipal Solid Waste (MSW) Landfills that meet both of the following conditions:

102.2.1 Construction, reconstruction, or modification that was commenced before May 30, 1991; and

102.2.2 Has accepted waste at any time since November 8, 1987 or has additional design capacity available for future waste deposition.

103 REFERENCES: The standards specified in this rule are required by the provisions of the federal Clean Air Act and its amendments (42 U.S.C. 7401 et seq.) and EPA regulations setting forth the emissions guidelines for MSW Landfills (40 CFR § 60.36c).

104 EXEMPTIONS: Any MSW Landfill that is subject to the requirements of the New Source Performance Standard, Subpart WWW - Standards of Performance for Municipal Solid Waste Landfills (40 CFR Section 60.750), is exempt from the requirements of this rule.

200 DEFINITIONS

Terms used but not defined in this rule have the meaning given them in 40 CFR Part 60.751 (Definitions) except:

201 ADMINISTRATOR: The Placer County Air Pollution Control Officer is the Administrator for the purposes of this rule and referenced provisions of the Code of Federal Regulations, except that the APCO shall not be empowered to approve:

201.1 Alternative or equivalent test methods, alternative standards; or

201.2 Alternative work practices unless included in the site specific design plan as provided in 40 CFR Section 60.752 (b)(2)(I).

202 DESIGN PLAN OR PLAN: The site-specific design plan for the gas collection and control system submitted under Section 303 of this rule.

203 MUNICIPAL SOLID WASTE LANDFILL OR MSW LANDFILL: An entire disposal facility in a contiguous geographical space where household waste is placed in or on land. A MSW landfill may also receive other types of RCRA Subtitle D wastes such as commercial solid waste, nonhazardous sludge, conditionally exempt small quantity generator waste, and industrial solid waste. Portions of an MSW landfill may be separated by access roads. A MSW landfill may be publicly or privately owned. A MSW landfill may be a new MSW landfill, an existing MSW landfill or a lateral expansion.

300 STANDARDS

301 DESIGN CAPACITY AND EMISSIONS REPORT: The owner or operator of each MSW landfill shall submit an initial design capacity and emissions report and amended design capacity emissions report as specified in 40 CFR 60.752 (Standards for Air Emissions from MSW Landfills). Any density conversions shall be documented and submitted with the report.

302 COLLECTION AND CONTROL SYSTEM: The owner or operator of a MSW landfill that has either a design capacity equal to or greater than 2.5 million megagrams (2.75 million tons) or 2.5 million cubic meters, or a non-methane organic compounds (NMOC) emission rate of 50 megagrams per year (55.1 tons per year), or more as calculated pursuant to 40 Code of Federal Regulations (CFR) 60.754, shall install a collection and control system meeting the conditions provided in 40 CFR 60.752(b)(2)(ii) and (iii), except as provided in Section 304 of this rule.

303 COLLECTION AND CONTROL SYSTEM DESIGN PLAN: The owner or operator of a MSW landfill required to install a gas collection and control system pursuant to Section 302 shall submit a site-specific collection and control system design plan to the APCO as provided under 40 CFR 60.752(b)(2)(I)(B), and an Authority to Construct application pursuant to Rule 501, General Permit Requirements, and meet all of the following conditions.

303.1 The design plan shall include any alternatives to the operational standards, test methods, procedures, compliance measures, monitoring, record keeping or reporting provisions of 40 CFR 60.753 through 60.758.

303.2 The APCO shall review and either approve or disapprove the plan, or request that additional information be submitted. The design plan shall either conform with specifications for active collection systems in 40 CFR 60.759 or include a demonstration to the APCO's satisfaction of the sufficiency of the alternative provisions to 40 CFR 60.759. The design plan may include alternatives as specified in 40 CFR 60.752(b)(2)(B).

The design plan shall provide for the control of collected MSW landfill emissions through the use of a collection and control system meeting the collection and control system requirements of 40 CFR 60.752(b)(2)(ii) and (iii) except that paragraphs (b)(2)(ii)(B) and (b)(2)(iii)(A) of 40 CFR 60.752 concerning the use of passive collection systems and open flares do not apply to MSW landfills subject to this rule. Sources shall route all collected gas to a collection and control system that complies with the requirements of 40 CFR 60.752(b)(2)(ii)(A) for active collection systems or 40 CFR 60.752(b)(2)(iii)(B) or (C), concerning control devices and treatment systems other than an open flare.

304 COLLECTION AND CONTROL SYSTEM OPERATIONAL STANDARDS: Each MSW landfill required to install a gas collection and control system pursuant to Section 302 shall meet the operational standards in 40 CFR 60.753; the compliance provisions in 40 CFR 60.755 and the monitoring provisions in 40 CFR 60.756, except that the APCO may approve alternatives in the design plan as provided in Section 303 of this rule.

400 ADMINISTRATIVE REQUIREMENTS

401 COMPLIANCE SCHEDULE

401.1 The design capacity and the NMOC emissions reports required pursuant to 40 CFR 60.752 and 40 CFR 60.754 shall be submitted within ninety (90) days after August 8, 1997.

- 401.2 The site-specific collection and control system design plan required under Section 303 of this rule shall be submitted within one year after the District determines that the MSW landfill has a NMOC emission rate equal to or greater than fifty (50) megagrams per year.
- 401.3 The planning, awarding of contracts, and installation of the collection and control equipment required pursuant to Section 302 of this rule shall be accomplished within thirty (30) months after August 8, 1997.
- 401.4 The initial performance test of the collection and control system equipment shall be accomplished within six (6) months of control system startup.

500 MONITORING AND RECORDS

- 501 RECORD KEEPING:** The owner or operator of each MSW landfill shall meet the record keeping and reporting requirements of 40 CFR 60.757 and 40 CFR 60.758, as applicable, except that the APCO may approve alternative record keeping and reporting provisions as provided in Section 304 of this rule. Any records or reports required to be submitted pursuant to 40 CFR 60.757 or 40 CFR 60.758 shall be submitted to the APCO.

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RULE 238 FACTORY COATING OF FLAT WOOD PANELING

Adopted 11-03-94-
(Amended 2-09-95, 6-08-95, 8-14-97, 02-18-04)

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100 GENERAL

101 PURPOSE: The purpose of this Rule is to limit the emission of volatile organic compounds (VOC) from the factory application of coatings and inks to flatwood paneling as defined in Section 207, and to wood flat stock, as defined in Section 221.

102 APPLICABILITY:

102.1 Geographic: The provisions of this rule apply only to facilities located in the Sacramento Valley Air Basin portion of Placer County, as defined by California Code of Regulations, Title 17, Division 3, Chapter 1, Subchapter 1.5, Article 1, Section 60106.

102.2 Business Category: The provisions of this rule shall apply to any person who applies in a shop or factory facility, coatings or inks used to coat any products defined in Section 207 or 221, or who manufactures, blends, sells, repackages, distributes or specifies, such coatings and inks. Standard Industrial Code (SIC) classifications covering these coating processes are 2431, 2435, 2436, 2492 and 2499.

103 EXEMPTIONS:

103.1 Exemption, Furniture and Cabinet Components: Surface coating of flat wood stock intended to be used as a furniture or cabinet component, is subject to Rule 236, Wood Products Coating Operations, and is exempt from all provisions of this rule.

103.2 Exemption, Non-Shop Architectural Coatings: The coating of stationary structures and their appurtenances in a non-shop operation is subject to Rule 218, Architectural Coatings, and is exempt from all provisions of this rule.

103.3 Exemption, Adhesives: The use of adhesives to manufacture flatwood panels or wood flat stock, is subject to Rule 235, Adhesives, and is exempt from all provisions of this rule.

103.4 Exemption From Requirements of Other District Rules: Any coating, ink or cleanup material which contains compounds that are subject to the VOC provisions of this rule, is exempt from the provisions of Rule 219, Organic Solvents.

103.5 Exemption - Residential, Non-Commercial Operations: Residential, non-commercial flatwood coating operations are exempt from all provisions of this rule.

103.6 Partial Exemption, Low Volume: Businesses using less than 55 gallons per year or coatings, inks and VOC-containing cleanup solvents or strippers, (singly or in combination) are exempt from the provisions of this rule, except for Recordkeeping, Section 502.

103.7 Exemption, Aerosol Coatings, Touch-Up: Aerosol-spray coatings for touch up and repair are exempt from all provisions of this rule.

103.8 Exemption, Other: The application of coatings by template in order to add designs, letters, or numbers to wood products, is exempt from all provisions of this rule.

200 DEFINITIONS

201 ADHESIVE: Any substance that is applied for the primary purpose of bonding surfaces together.

- 202 CAPTURE EFFICIENCY:** Expressed in percent, capture efficiency is the ratio of the weight of the VOC in the effluent stream entering a control device to the weight of the VOC emitted from flatwood paneling coating operations, both measured simultaneously in accordance with Section 505.2, and can be calculated by the following equation:

$$\text{Capture Efficiency} = \frac{W_c}{W_e} \times 100$$

Where: W_c = Weight of VOC entering the control device
 W_e = Weight of VOC discharged from the coating operations

- 203 COATING:** Any coating applied on any flatwood paneling or wood flat stock including but not limited to water repellant preservative, semitransparent stains, opaque stains, Filler, or clear top coat.

- 204 CONTROL DEVICE EFFICIENCY:** Expressed in percent, control device efficiency is the ratio of the weight of the VOC removed by the control device from the effluent stream entering the control device to the weight of VOC in the effluent stream entering the control device, both measured simultaneously in accordance with Section 505.3, and can be calculated by the following equation:

$$\text{Control Device Efficiency} = \frac{(W_c - W_a)}{W_c} \times 100$$

Where: W_c = Weight of VOC entering the control device
 W_a = Weight of VOC discharged from the control device

- 205 EMISSION CONTROL SYSTEM:** A system for reducing emissions of VOC from flatwood paneling coating operations. It consists of (1) a capture device or system which collects all drying oven exhaust and fugitive emissions from the line and transports them to the control device, and (2) a VOC control device which destroys the VOC or otherwise limits the emission of VOC to the atmosphere. The individual efficiencies are calculated in accordance with Sections 202 and 204.

The overall efficiency of the emission control system is calculated by the following equation:

$$\text{Overall Efficiency, \%} = \frac{\text{Capture Efficiency, \%} \times \text{Control Device Efficiency, \%}}{100}$$

- 206 EXEMPT COMPOUNDS:** For the purposes of this rule, exempt compounds are as defined in Rule 102, Definitions.

- 207 FLATWOOD PANELING:** Printed interior panels made of hardwood plywood and thin particle board, natural finish hardwood plywood, hardwood paneling, baseboard, wood flat stock, veneers, doors, door skins, wood flat product skins, tileboard and wallboard.

- 208 HARDBOARD:** A panel manufactured primarily from inter-felted ligno-cellulosic fibers which are consolidated under heat and pressure in a hot press.

- 209 HARDWOOD PLYWOOD:** Plywood whose surface layer is a veneer of hardwood.

- 210 INK:** Any fluid or viscous composition used in printing impressing or transferring an image onto a panel.

- 211 LOW SOLIDS COATING:** A coating or ink containing 120 grams or less of solids per liter (1.0 pounds or less of solids per gallon) of coating material.
- 212 NATURAL FINISH HARDWOOD PLYWOOD PANELS:** Panels whose original grain pattern is enhanced by essentially transparent finishes frequently supplemented by fillers and toners.
- 213 NON-HEAT-SET INK:** An ink which dries by oxidation and absorption into the substrate without the use of heat from dryers or ovens.
- 214 PANEL:** A flat piece of wood or wood product usually rectangular and used inside homes and mobile homes for wall decorations.
- 215 PRINTED INTERIOR PANELS:** Panels whose grain or natural surface is obscured by fillers and basecoats upon which a simulated grain or decorative pattern is printed.
- 216 THIN PARTICLEBOARD:** A manufactured board 1/4 inch or less in thickness made of individual wood particles which have been coated with a binder and formed into flat sheets by pressure.
- 217 TILEBOARD:** Paneling that has a colored waterproof surface coating.
- 218 VOC CONTENT PER LITER OF COATING, LESS WATER AND EXEMPT COMPOUNDS:** The weight of VOC per combined volume of VOC and coating solids, measured in accordance with Section 505.1, and calculated by the following equation:

$$G_1 = \frac{W_v - W_w - W_{ec}}{V_m - V_w - V_{ec}}$$

Where:

G_1	=	Weight of VOC in grams per liter of coating, less water and exempt compounds.
W_v	=	Weight of volatile compounds, in grams.
W_w	=	Weight of water, in grams.
W_{ec}	=	Weight of exempt compounds, in grams.
V_m	=	Volume of coating material, in liters.
V_w	=	Volume of water, in liters.
V_{ec}	=	Volume of exempt compounds, in liters.

(To convert G_1 to pounds per gallon, multiply by 0.008345)

- 219 VOC CONTENT FOR LOW SOLIDS COATINGS:** The weight of VOC in grams, per liter of low solids coating material, measured in accordance with Section 505.1, and calculated by the following equation:

$$G_L = \frac{W_v - W_w - W_{ec}}{V_m}$$

Where:

G_L	=	Weight of VOC per liter of low solids coating material, less water and exempt compounds.
W_v	=	Weight of volatile compounds, in grams.
W_w	=	Weight of water, in grams.
W_{ec}	=	Weight of exempt compounds, in grams.
V_m	=	Volume of coating material, in liters.

(To convert G_L to pounds per gallon, multiply by 0.008345)

- 220 VOLATILE ORGANIC COMPOUND (VOC):** Any chemical compound containing at least one atom of carbon, except for the Exempt Compounds listed in Rule 102, Definitions.
- 221 WOOD FLAT STOCK:** Interior panels containing wood including but not limited to redwood stocks, plywood panels, particle boards, composition hardboards, and any other panels containing solid wood or wood product.

300 STANDARDS

- 301 GENERAL REQUIREMENTS:** Any person applying coatings or inks to flatwood paneling products subject to this rule shall comply with either of the following requirements listed in Sections 301.1 and 301.2:

- 301.1 Coating Materials and Inks - Use only coatings and inks that comply with the following VOC Limits:

Coating Materials and Inks	Maximum Allowable VOC content, as applied
All coatings and inks except for Low Solids coatings and inks (below).	250 grams or less of VOC per liter (2.1 pounds VOC per gallon) less water and exempt compounds, as calculated in accordance with Section 218
Low Solids coatings and inks	120 grams or less of VOC per liter (1.0 pounds VOC per gallon) of material as calculated in accordance with Section 219

OR

- 301.2 Install and operate on the line(s), an Emission Control System as defined in Section 205, that operates at an overall efficiency of at least 90%, as calculated in accordance with Section 205, and that has been approved pursuant to Section 401.
- 302 APPLICATION EQUIPMENT REQUIREMENTS:** A person or facility shall not apply coatings to wood products subject to the provisions of this rule unless the coating is applied with properly operating equipment, in accordance with proper operating procedures, and by the use of one of the following methods:
- 302.1 Electrostatic application
- 302.2 High volume, low pressure (HVLP) spray
- 302.3 Hand roller
- 302.4 Flow coat
- 302.5 Roll coater
- 302.6 Dip coat
- 302.7 Paint brush
- 302.8 Detailing or touch-up guns

303 CLEANUP AND STORAGE PROCEDURES: Any person or facility using VOC-containing solvents for cleanup or related uses shall observe the following procedures:

303.1 All solvent, including waste solvent and waste solvent residues, shall be stored in closed containers at all times. Each container shall have a label indicating the name of the solvent or material it contains.

303.2 If recovery of waste solvent by distillation is performed, solvent residues shall not contain more than 10 percent solvent by volume after distillation.

400 ADMINISTRATIVE REQUIREMENTS

401 OPERATION AND MAINTENANCE PLAN: A person using an existing emission control system as a means of compliance with this rule, pursuant to Section 301.2, shall submit an Operation and Maintenance Plan for the emission control system to the Air Pollution Control Officer for approval. A person proposing to install a new emission control system as a means of compliance with this rule, shall submit in addition to an Operation and Maintenance Plan, an application for an Authority to Construct, pursuant to Rule 501, General Permit Requirements. The Plan shall specify operating and maintenance procedures which will demonstrate continuous operation of the emission control system during periods of emissions-producing operations. The Plan shall also specify which records shall be kept to document these operating and maintenance procedures. These records shall comply with the requirements of Sections 503. The Plan shall be implemented upon approval of the Air Pollution Control Officer.

500 MONITORING AND RECORDS

501 COATING LIST: Any person subject to Section 301 shall maintain at the facility, a current list of coatings and inks in use, which includes all of the data necessary to evaluate compliance with the standards of this rule.

502 RECORDKEEPING: Any person subject to this Rule shall maintain records on a daily basis that provide the following information as applicable:

502.1 Coating types and mix ratios of components used

502.2 Quantity of each coating applied

502.3 Description of substrate(s) coated

502.4 Oven or cure temperature, if applicable

502.5 Type and amount of solvent used for cleanup and surface preparation

503 EMISSION CONTROL SYSTEM RECORDS: A person using an emission control system as a means of compliance with this rule pursuant to Section 301.2, shall maintain daily records of key system operating and maintenance procedures which will demonstrate continuous operation and compliance of the emission control system during periods of emission-producing activities. Key system operating parameters are those necessary to ensure compliance with the requirements of Section 301.2.

504 RETENTION OF RECORDS: All records maintained pursuant to this rule shall be retained for at least three years from date of entry, with the exception of sources subject to the requirements of Rule 507, Federal Operating Permit Program. These sources shall retain records at least five years. Records shall be made available for inspection by the Air Pollution Control Officer upon request.

505 TEST METHODS

- 505.1 Determination of VOC Content: VOC content of flatwood paneling coatings shall be determined in accordance with United States Environmental Protection Agency (U.S. EPA) Method 24 or U.S. EPA Method 24A and Sections 218, 219 and 220 of this rule.
- 505.2 Determination of Capture Efficiency: Efficiency of the capture system, calculated in accordance with Section 202, shall be based upon test measurements made in accordance with U.S. EPA "Guidelines for Determining Capture Efficiency, January 9, 1995". Individual capture efficiency test runs subject to the U.S. EPA technical guidelines shall be determined by:
- 505.2.1 Applicable U.S. EPA methods 204, 204A, 204B, 204C, 204E, and/or 204F; or
- 505.2.2 The South Coast Air Quality Management District "Protocol for Determination of Volatile Organic Compound (VOC) Capture Efficiency"; or
- 505.2.3 Any other method approved by U.S. EPA, the California Air Resources Board, and the Air Pollution Control Officer.
- 505.3 Determination of Control Device Efficiency: Efficiency of the emissions control device, calculated in accordance with Section 204, shall be based upon test measurements made in accordance with (1) U.S. EPA Method 18, 25, or 25A, for VOC concentration, and (2) U.S. EPA Method 2 or 2C for flow rates, as applicable.

RULE 239 GRAPHIC ARTS OPERATIONS

Adopted 11-03-94
(Amended 6-08-95, 2-13-97, 8-14-97, 04-08-04)

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500 MONITORING AND RECORDS

- 501 RECORDKEEPING
- 502 TEST METHODS

100 GENERAL

101 PURPOSE: To limit the emissions of volatile organic compounds from graphic arts operations.

102 APPLICABILITY:

102.1 Geographic: The provisions of this rule apply to all graphic arts operations located in Placer County.

102.2 Operations: Except for the operations listed in Section 104, EXEMPTIONS, the provisions of this rule apply to all GRAPHIC ARTS OPERATIONS as defined in Section 219 and to any person who manufactures, sells, offers to sell, or supplies any graphic arts materials listed in Sections 301, 302, 304 and 305, STANDARDS. (GRAPHIC ARTS OPERATIONS are typically categorized under the Standard Industrial Classification (SIC) Codes of 27xx).

103 SEVERABILITY: If a court of competent jurisdiction issues an order that any provision of this rule is invalid, it is the intent of the Board of Directors of the District that other provisions of this rule remain in full force and effect, to the extent allowed by law.

104 EXEMPTIONS:

104.1 General:

104.1.1 Until April 8, 2005, the requirements of this rule, with the exception of Sections 302 and 501.1 to 501.3, shall not apply to any graphic arts operation at a stationary source which emits less than 660 pounds of volatile organic compounds per calendar month from all graphic arts operations, including cleaning materials, and excluding operations addressed in Section 104.2.

104.1.2 After April 8, 2005, the requirements of this rule, with the exception of Sections 302 and 501.1 to 501.3, shall not apply to any graphic arts operation at a stationary source which either;

104.1.2.1 has actual emissions of less than or equal to 60 pounds per calendar month of volatile organic compounds from all graphic arts operations and cleaning materials; or

104.1.2.2 receives a permit that limits the potential to emit, as calculated pursuant to Rule 502, New Source Review, to less than or equal to 175 pounds of volatile organic compounds per calendar month from all graphic arts operations and cleaning materials.

104.2 Proof Presses and/or Research and Test Development Operations: Until April 8, 2005, this rule, with the exception of Sections 302 and 501.1-3, shall not apply to any graphic arts operations used exclusively for research, laboratory analysis or determination of product quality and commercial acceptance, such as proof presses or other proofing systems, provided that total VOC emissions from all such equipment do not exceed 300 pounds per calendar month per stationary source. As noted above, this exemption shall expire April 8, 2005.

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- 104.3 Exemption From Rule 219: The provisions of Rule 219, Organic Solvents, shall not apply to Graphic Arts Operations as defined in Rule 239, Section 219.
- 104.4 Business and Personal Printers: This rule shall not apply to business and personal printers such as ink jets, bubble jets, and laser jets.
- 104.5 Prepress Operations: This rule shall not apply to prepress operations associated with printing plate making including film photo processors and plate photo processors.
- 104.6 Aerosol Adhesives – Screen Printing: The requirements in Section 302 of this rule shall not apply to aerosol adhesives used by screen printing operations provided that the aerosol adhesives comply with the VOC limits for aerosol adhesives under Section 300 - STANDARDS in Rule 235 – Adhesives.
- 104.7 Aerosol Adhesives – Graphic Arts Operations: The requirements of this rule shall not apply to aerosol adhesives used by graphic arts operations provided that the VOC emissions from the facility are less than 660 pounds per calendar month from all graphic arts operations and provided that the aerosol adhesives comply with the VOC limits for aerosol adhesives under Section 300 - STANDARDS in Rule 235 – Adhesives.

200 DEFINITIONS

- 201 ADHESIVE:** Any substance used to bond one surface to another surface by attachment.
- 202 AEROSOL ADHESIVE:** An adhesive consisting of a mixture of rubber, resins, liquid and /or gaseous solvents, and propellants packaged in a hand-held, pressurized, non-refillable container. The container expels the pressurized aerosol materials in a finely divided spray when a valve on the container is depressed.
- 203 APPLICATION EQUIPMENT:** A device used to apply adhesive, coating, or ink materials.
- 204 BLANKET AND ROLLER WASHES:** Cleaning materials, which are used to remove the printing inks, oils, and paper pieces from the blankets and rollers excluding metering rollers and plates.
- 205 CLOSED CONTAINER:** A container which has a cover that meets with the main body of the container without any visible gaps between the cover and the main body of the container.
- 206 COATING:** A layer of material, excluding adhesives, applied across the entire width of a substrate. Examples in printing, are an emulsion, varnish or lacquer applied over a printed surface, and, in platemaking, the light-sensitive polymer or mixture applied to a metal plate.
- 207 COLD BENDING:** A process which subjects the printed color, design, alphabet, symbol, or numeral on a printed object to permanent bending through the application of force.
- 208 CONTROL DEVICE:** Equipment such as an incinerator or adsorber used to prevent air pollutants from reaching the ambient air.
- 209 CONVERTING OPERATION:** Coating, waxing, laminating, extrusion coating and printing, for fabrication of base materials. The base materials are then used to produce wraps, bags, and other preformed packages.

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- 210 DRYING OVEN:** An oven used to hasten the process of drying printed or coated material.
- 211 ELECTRONIC CIRCUIT:** A product, which consists of a substrate and circuitry, created by screen printing a conductive ink on the substrate.
- 212 EMBOSSING:** A process performed after printing to stamp a raised or depressed image (artwork or type) into the surface of the paper, using engraved metal embossing dies, extreme pressure and heat.
- 213 EXEMPT COMPOUNDS:** For the purposes of this rule, Exempt Compounds are as defined in Rule 102, Definitions.
- 214 EXTREME PERFORMANCE INK/COATING:** An ink or coating, used in screen printing on a non-porous substrate, that is designed to resist or withstand any of the following:
- 214.1 five or more years of outdoor exposure;
 - 214.2 exposure to industrial-grade chemicals, solvents, acids, detergents, oil products (including fuels), cosmetics, temperatures exceeding 76 °C (170 °F), vacuum forming, embossing or molding.
- 215 FLEXIBLE PACKAGING INDUSTRY:** Establishments that convert materials consisting of light gauge papers, plastic films, cellulosic films such as cellophane, thin gauge metal sheets such as aluminum foil or steel foil, and combinations thereof into a variety of product packages.
- 216 FLEXOGRAPHIC PRINTING:** A printing operation utilizing a flexible rubber or other elastomeric plate in which the image area is raised relative to the nonimage area
- 217 FOUNTAIN SOLUTION:** The solution applied to the image plate to maintain the hydrophilic properties of the nonimage areas and to keep the nonimage area free from ink. Fountain solution is primarily water, and contains at least one of the following materials:
- 217.1 etchants such as mineral salts
 - 217.2 hydrophilic gums
 - 217.3 VOC additives to reduce the surface tension of the solution.
- 218 FUGITIVE EMISSIONS:** Emissions of VOC from any portion of Graphic Arts Operations as defined in Section 219, other than the drying oven.
- 219 GRAPHIC ARTS OPERATIONS:** Any gravure, screen printing, flexographic, lithographic, or letterpress printing operation, or any coating or laminating operation that manufactures flexible packaging material for the packaging industry. Processing equipment which has both coating and printing units is considered to be performing a graphic arts operation. Coating operations, which are performed by a machine having only coating units and no printing units, are not graphic arts operations except for flexographic printing operations.
- 220 GRAVURE PRINTING:** A printing operation using a plate in which the image area is etched or engraved onto the surface.

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- 221 HEAT BENDING:** A process, which subjects the printed color, design, alphabet, symbol, or numeral on a printed object to permanent bending through the application of heat and force.
- 222 HEATSET INK:** A printing ink used on continuous web-feed printing presses that are equipped with dryers or ovens. The ink dries or sets by heat induced evaporation of the ink oils and subsequent chilling of the ink by chill rolls.
- 223 INFLATING:** A process of filling a printed object with air or gas which results in the swelling of the printed area.
- 224 LAMINATING OPERATIONS:** A process of composing two or more layers of material to form a single multiple-layer sheet by using adhesive as the bonding agent.
- 225 LETTERPRESS PRINTING:** A printing operation in which the image area is raised relative to the non-image area and the ink is transferred to the paper directly from the image surface.
- 226 LINE:** The minimum equipment which is required for the application and/or curing of inks and/or coatings on a substrate, including the ink and/or coating applicators and heating oven(s) and associated ink and coating mixing equipment.
- 227 LITHOGRAPHIC PRINTING:** A printing operation in which the image and non-image areas exist in the same plane. The non-image area is treated chemically so that only the image areas will be printed onto the substrate.
- 228 LITHOGRAPHIC AND LETTER PRESS PRINTING, OTHER CLEANING:** Cleaning of metering rollers and printing plates.
- 229 MAINTENANCE CLEANING:** A solvent cleaning operation or activity carried out to keep tools, machinery, or general work areas in clean and good operational condition.
- 230 MATERIAL:** Any material containing VOC including but not limited to coating, adhesive, inks (e.g., printing ink, metallic ink, ultraviolet ink), fountain solutions, thinners, reducers, catalysts, colorants, or solvents used in cleaning.
- 231 MECHANICALLY FORMED PRODUCTS:** Screen printed products made of plastic substrates, which are subjected to vacuum-forming, embossing, inflating, heat bending, or cold bending processes after the screen printing operation.
- 232 METALLIC INK:** An ink that contains greater than 50 grams of metal per liter (0.4 lb/gal) of ink.
- 233 METERING ROLLER:** A roller to transfer and meter water to maintain hydrophilic properties.
- 234 NONCOMPLIANT MATERIAL:** A material that:
- 234.1 exceeds the VOC content limits specified in Section 302, and is not exempt pursuant to Section 104, and does not use emission control equipment pursuant to Section 303; or
 - 234.2 exceeds the VOC content limit and/or composite vapor pressure limit, as applicable, in Section 302, and does not use emission control equipment pursuant to Section 303.
- 235 NON-HEATSET INK:** An ink that sets and dries by absorption into the substrates, and hardens by ambient air oxidation that may be accelerated by the use of infrared light

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sources. For purposes of this definition ultraviolet and electron-beam curable inks are examples of non-heatset inks

- 236 NON-POROUS SUBSTRATE:** Any substrate whose surface prevents penetration by water, including but not limited to foil, polyethylene, polypropylene, cellophane, paper or paperboard coated with a non-porous metallized polyester, nylon and polyethylene terephthalate (mylar). Clay-coated printing paper as defined by the American Paper Institute Classification System, and paperboard coated with clay to prevent water penetration shall be considered non-porous substrates.
- 237 OFFSET PRINTING:** A lithographic printing operation in which the image area is transferred, or offset, to another surface, and then printed onto the substrate.
- 238 OVERLAY:** A screen printed product made of polycarbonate, polyester, or clear vinyl plastic substrate which activates the circuitry on an electronic circuit underneath it when pressed against the electronic circuit. Overlays and electronic circuits are used in membrane switches of products such as computer keyboards, calculators, control panels, and home appliances.
- 239 PREPRESS OPERATIONS:** Operations associated with printing plate making using film photo processors and plate photo processors.
- 240 PRINTING:** Any graphic arts operation that imparts color, design, alphabet, or numerals on a substrate.
- 241 PRINTING INK:** A pigmented fluid or viscous material used in printing.
- 242 PROOF PRESS:** A press used exclusively to check the quality of print, color reproduction, and editorial content.
- 243 REFRIGERATED CHILLER:** A device that continuously maintains and supplies fountain solution to a holding tray at a temperature of 55 degrees Fahrenheit or less when measured at the supply tank, thereby reducing evaporative emissions of VOCs in fountain solution.
- 244 REPAIR CLEANING:** Cleaning of equipment parts as part of a repair operation or as part of a scheduled maintenance procedure during which the parts are not removed from the equipment and power to the printing equipment has been turned off and secured.
- 245 SCREEN PRINTING:** A printing operation in which the printing ink passes through a refined form of stencil to a web or fabric. The stencil openings determine the form and dimension of the imprint.
- 246 SIGN INK/COATING:** A printing ink or coating used in screen printing indoor and outdoor signs (excluding structural components) and murals, including lettering enamels, poster colors, copy blockers, and bulletin enamels.
- 247 SOLVENT CLEANING:** The removal of loosely held uncured adhesives, uncured inks, uncured coatings, and contaminants including, but not limited to, dirt, soil, and grease from equipment, substrate, and general work areas.
- 248 SPECIALTY FLEXOGRAPHIC PRINTING:** Flexographic printing on polyethylene, polyester and foil substrates for food packaging, health care products, fertilizer bags, or liquid-tight containers.

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- 249 STANDARD INDUSTRIAL CLASSIFICATION (SIC):** Number codes created by the U. S. Government Office of Management and Budget (OMB) to classify establishments by type of economic activity.
- 250 STATIONARY SOURCE:** Any building, structure, facility, or emissions unit which emits or may emit any affected pollutant directly or as a fugitive emission.
- 250.1 Building, structure, facility, or emissions unit includes all pollutant emitting activities which:
- 250.1.1 Belong to the same industrial grouping, and
- 250.1.2 Are located on one property, or two or more contiguous properties, and
- 250.1.3 Are under the same or common ownership, operation, or control, or which are owned or operated by entities which are under common control.
- 250.2 Pollutant emitting activities shall be considered as part of the same industrial grouping if:
- 250.2.1 They belong to the same two-digit Standard Industrial Classification (SIC) code, or
- 250.2.2 They are part of a common production process, which includes industrial processes, manufacturing processes and any connected processes involving a common material.
- 251 SUBSTRATE:** The surface to which a printed image is applied. Substrates include, but are not limited to, paper, plastic, metal, wood, ceramic, and fabric.
- 252 ULTRAVIOLET INK:** Ink which dries by polymerization reaction induced by ultraviolet energy.
- 253 VACUUM-FORMING:** A process which imparts a desired shape to a printed object by subjecting the screen printed area of the object to a vacuum.
- 254 VOC COMPOSITE PARTIAL PRESSURE:** The sum of the partial pressures of the compounds defined as VOCs. VOC composite partial pressure is calculated pursuant to Section 403.
- 255 VOLATILE ORGANIC COMPOUNDS (VOC):** Any chemical compound containing at least one atom of carbon except for the Exempt Compounds listed in Rule 102, Definitions.
- 256 VOLATILE ORGANIC COMPOUND (VOC) AS APPLIED:** A VOC as applied means the VOC content of the material as applied including thinners, reducers, hardeners, retarders, catalysts and additives calculated pursuant to Section 502.1.
- 257 VOLATILE ORGANIC COMPOUND (VOC) AS SUPPLIED:** A VOC as supplied means the VOC content of the original material as supplied by the manufacturer calculated pursuant to Section 502.1.
- 258 WATER SLIDE DECALS:** Decals which are screen printed onto treated paper stock, and are removable from the stock by the dissolution of an underlying, water-soluble adhesive or a similar carrier.

- 259 WEB:** A continuous sheet of substrate that is printed on web-fed printing presses.
- 260 WEB-FEED:** An automatic system on a printing press, which supplies a web substrate for printing from a continuous roll or web or from an extrusion conversion process.
- 261 WIPE CLEANING:** The method of cleaning a surface by physically rubbing the surface with a material such as a rag, paper, or a sponge moistened with a solvent.

300 STANDARDS

301 GENERAL REQUIREMENTS: Any person operating equipment for GRAPHIC ARTS OPERATIONS as defined in Section 219, shall comply with one of the following requirements:

- 301.1 Use only low-VOC (Volatile Organic Compounds) inks, coatings, adhesives, and fountain solutions as specified in Section 302, of this rule; or
- 301.2 Install and operate on the line, approved emission control equipment pursuant to Section 303, with a control device efficiency of at least 95 percent on a mass basis, and a collection efficiency of at least 70% on a mass basis. (Note that the use of an approved emission control system does not eliminate the need to comply with the provisions of Section 304 of this rule.)

302 VOC CONTENT LIMITS FOR MATERIALS USED IN GRAPHIC ARTS OPERATIONS: Except for graphic arts operations exempt pursuant to Section 104, no person shall apply any material with a VOC content in excess of the limits specified below. The VOC content of the material as applied shall be determined pursuant to Section 502.1

302.1 VOC Content for Inks, Coatings, and Adhesives:

MATERIAL TYPE	VOC CONTENT gm/l (lb/gal) Less water and exempt compounds		
	Effective 8/14/97	Effective April 8, 2005	Effective April 8, 2005
General			
Printing Ink	300 (2.5)	300 (2.5)	300 (2.5)
Adhesive	300 (2.5)	150 (1.25)	150 (1.25)
Coating	300 (2.5)	300 (2.5)	300 (2.5)
Screen Printing			
Printing Ink	-	-	400 (3.3)
Adhesive	-	-	150 (1.25)
Coating	-	-	400 (3.3)
Electronic Circuit	-	-	800 (6.7)
Extreme Performance Ink/Coating	-	-	800 (6.7)
Metallic Ink	-	-	400 (3.3)
Sign Ink/Coating	-	-	500 (4.1)
Mechanically Formed Products	-	-	800 (6.7)
Overlays	-	-	800 (6.7)
Web-Fed Wallpaper	-	-	300 (2.5)
Water Slide Decals	-	-	800 (6.7)

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302.2 VOC Content for Fountain Solution Materials:

MATERIAL TYPE	VOC CONTENT gm/l (lb/gal) Including water and exempt compounds	
	Effective 8/14/97	Effective April 8, 2005
Fountain Solutions – Chilled Using Refrigerated Chiller	116(0.97)	100 (0.83)
Fountain Solutions – Non-Chilled	116(0.97)	80 (0.67)

302.3 Temperature Gauge Requirements Refrigerated Chiller: The refrigerated chiller shall be equipped with a temperature gauge. The temperature of the fountain solution shall be maintained at 55 °F or less.

303 EMISSION CONTROL EQUIPMENT: As an alternative to Sections 301 and 302, a person may use air pollution control equipment providing it satisfies the following:

303.1 The air pollution control equipment is approved by the Air Pollution Control Officer pursuant to Rule 501, General Permit Requirements, and

303.2 The air pollution control equipment is designed and operated with:

303.2.1 A control device efficiency of at least 95 percent on a mass basis, as determined pursuant to Sections 406 and 502.4, and

303.2.2 An emission collection efficiency of at least 70 percent on a mass basis, as determined pursuant to Section 502.5.

304 CLEANING AND STORAGE REQUIREMENTS: Any person using cleanup solvents for graphic arts operations shall comply with the following requirements:

304.1 Materials used for solvent cleaning shall not exceed the VOC and/or composite vapor pressure limits specified in the table below. The VOC content of the material as applied shall be determined pursuant to Section 502.1. The composite partial pressure shall be determined using Section 502.6.

(Table Continued on Next Page)

VOC CONTENT OF SOLVENT CLEANING MATERIALS Note: Where VOC limits are shown as both grams/liter and composite vapor pressure, either may be used as the content limit for the specific application shown.			
Material Type	VOC Content gm/l (lb/gal) Including Water and Exempt Compounds		VOC Composite Partial Pressure Millimeters of Mercury at 20 °C (68 °F)
General (e.g., maintenance, repair, solvent, wipe) Cleaning	72 (0.60)		
Application Equipment Cleaning			
1. General (not specifically listed below)	100 (0.83)	AND	3
2. Lithographic and Letter Press Printing, Blanket and Roller Washes	300 (2.5)	OR	10
3. Lithographic and Letter Press Printing, Other Cleaning	300 (2.5)	OR	25
4. Screen Printing	300 (2.5)	OR	10
5. Flexographic Printing	100 (0.83)	AND	3
6. Specialty Flexographic Printing	810 (6.8)	AND	21
7. Ultraviolet Inks (Except Screen Printing)	800 (6.7)	AND	33

- 304.2 Lithographic and Letter Press Printing, Other Cleaning: The total usage for this cleaning category shall not exceed 15 percent (by volume) of the total monthly usage of the Lithographic and Letter Press Printing, Blanket and Roller Washes category. The percentage of the solvents used for Lithographic and Letter Press Printing, Other Cleaning shall be calculated as follows:

$$\% \text{ Usage} = \frac{G}{Y} * 100\%$$

Where: G = Total usage for Lithographic and Letter Press Printing, Other Cleaning materials (gal/month)
 Y = Total material usage for Lithographic and Letter Press Printing, Blanket and Roller Washes (gal/month)

- 304.3 Closed containers shall be used for the disposal of all VOC-containing cloth, sponges, papers, or other materials used for solvent cleaning.

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304.4 All VOC-materials shall be stored in closed containers when not in use.

304.5 These cleanup solvent cleaning material limits shall supercede the requirements of Rule 240, Surface Preparation and Cleanup, for the cleaning of application equipment.

305 PROHIBITION OF SALE: A person shall not supply, sell, solicit, or offer for sale, any noncompliant material as defined in Section 234 for use in graphic arts operations. The prohibition in this section shall apply to any graphic arts material which will be applied at any physical location within the District.

306 SURFACE PREPARATION AND REPAIR AND MAINTENANCE SOLVENT CLEANING: Solvents used to clean substrates during the manufacturing process, or used for surface preparation before coating, adhesive, or ink application, and solvents used for repair or maintenance cleaning, are subject to the requirements of Rule 240, Surface Preparation and Cleanup.

400 ADMINISTRATIVE REQUIREMENTS

401 OPERATION AND MAINTENANCE PLAN: Any person using existing emission control equipment pursuant to Section 303, as a means of complying with this rule, as provided in Section 301 and 302, must submit, an Operation and Maintenance Plan for the emission control equipment to the Air Pollution Control Officer for approval. A person proposing to install new emission control equipment as a means of complying with this rule shall submit in addition to an Operation and Maintenance Plan, an application for an Authority to Construct, pursuant to Rule 501, General Permit Requirements. The Plan shall specify key system operating parameters such as temperatures, pressures, and/or flow rates, as necessary to determine compliance with this rule and shall describe detailed procedures to maintain the approved emission control equipment. The Plan shall also specify which records must be kept to document these operating and maintenance procedures. These records shall comply with the requirements of Sections 501.4, and 501.5. The Plan shall be implemented upon approval of the Air Pollution Control Officer.

402 PRODUCT INFORMATION REQUIREMENTS FOR SELLERS: Any person who sells any material subject to this rule shall make available to the purchaser at the time of sale the following information:

402.1 The material type by name/code/manufacture;

402.2 For materials subject to Section 302.1: The maximum VOC content of the material (adhesive, ink and coating), as supplied. The VOC content shall be displayed as grams of VOC per liter of material (or pounds of VOC per gallon), excluding water and exempt compounds;

402.3 For materials subject to Section 302.2: The maximum VOC content of the fountain solution, as supplied. The VOC content shall be displayed as grams per liter of material (or pounds of VOC per gallon), including water and exempt compounds as determined pursuant to Section 502.1;

402.4 For materials subject to Section 304.1: The maximum VOC content and the total VOC composite partial pressure of the material as supplied. The VOC content shall be displayed as grams of VOC per liter of material (or pounds of VOC per gallon), including water and exempt compounds as determined pursuant to Section 502.1. The composite vapor pressure shall be displayed in millimeters of mercury at 20 °C (68 °F) as determined pursuant to Section 502.7; and

402.5 For all materials subject to Sections 302 and 304.1: Recommendations regarding thinning, reducing, or mixing with any material.

403 CALCULATION FOR DETERMINING VOC COMPOSITE PARTIAL PRESSURE: VOC composite partial pressure shall be calculated by the following equation:

$$PP_c = \frac{\sum_{i=1}^n \frac{(W_i)(VP_i)}{MW_i}}{\frac{W_w}{MW_w} + \sum_{e=1}^n \frac{W_e}{MW_e} + \sum_{i=1}^n \frac{W_i}{MW_i}}$$

Where: PP_c = VOC composite partial pressure at 20 °C, in mm Hg.
 W_i = Weight of the "i"th VOC compound, in grams, as determined by ASTM E 260-96.
 W_w = Weight of water, in grams as determined by ASTM D 3792-99.
 W_e = Weight of the "e"th exempt compound, in grams, as determined by ASTM E 260-96.
 MW_i = Molecular weight of the "i"th VOC compound, in grams per g-mole, as given in chemical reference literature.
 MW_w = Molecular weight of water, 18 grams per g-mole.
 MW_e = Molecular weight of the "e"th exempt compound, in grams per g-mole, as given in chemical reference literature.
 VP_i = Vapor pressure of the "i"th VOC compound at 20°C, in mm Hg, as determined by Section 502.7 of this rule.

404 CALCULATION FOR DETERMINING VOC CONTENT OF MATERIAL EXCLUDING WATER AND EXEMPT COMPOUNDS: For the VOC content as applied, the volume of material is defined as the volume of the original material plus any material (e.g., thinners, reducers, or catalysts) added to the original material. For the VOC content as supplied, the volume of material is defined as the volume of the original material. The weight of VOC per combined volume of VOC and material solids shall be calculated by the following equation:

$$G_1 = \frac{W_v - W_w - W_{ec}}{V_m - V_w - V_{ec}}$$

Where: G_1 = Weight of VOC per volume of material, less water and exempt compounds, in grams per liter
 W_v = Weight of all volatile compounds, including any volatile materials added to the original material supplied by the manufacturer when calculating the VOC content as applied, in grams
 W_w = Weight of water, in grams
 W_{ec} = Weight of exempt compounds, in grams
 V_m = Volume of material, in liters
 V_w = Volume of water, in liters
 V_{ec} = Volume of exempt compounds, in liters

405 CALCULATION FOR DETERMINING VOC CONTENT OF MATERIAL INCLUDING WATER AND EXEMPT COMPOUNDS: For the VOC content as applied, the volume of material is defined as the volume of the original material, plus any material added to the original material (e.g., thinners or reducers). For the VOC content as supplied, the

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volume of material is defined as the volume of the original material. The weight of VOC per total volume of material shall be calculated by the following equation:

$$G_2 = \frac{W_v - W_w - W_{ec}}{V_m}$$

Where: G_2 = Weight of VOC per total volume of material, in grams per liter
 W_v = Weight of all volatile compounds, in grams
 W_w = Weight of water, in grams
 W_{ec} = Weight of exempt compounds, in grams
 V_m = Volume of material, in liters

406 CALCULATION FOR DETERMINING PERCENT CONTROL EFFICIENCY AND VOC MASS EMISSION RATE: The VOC mass emission rate shall be calculated both upstream and downstream of the emissions control device based on the VOC mass concentration and volumetric flowrate, pursuant to Section 502.5 and the equations on the following page:

406.1 VOC Mass Emission Rate:

$$M = (Q) * (C) * (60 \frac{\text{min}}{\text{hr}}) \text{ (calculated upstream and downstream)}$$

Where:

M = VOC mass emission rate (upstream and downstream, in lb/hr.
Q = the volumetric flowrate at the inlet (upstream) or exhaust stack outlet (downstream), in standard cubic feet per minute as determined by Section 502.4.
C = the VOC mass concentration at the inlet (upstream) or outlet (downstream), in pounds per standard cubic feet, as determined pursuant to Section 502.4.

406.2 The percent control efficiency is calculated as follows:

$$\%CE = \left(\frac{M_u - M_d}{M_u} \right) * 100$$

Where: CE = control efficiency.
 M_u = the upstream VOC mass emission rate, in lb/hr.
 M_d = the downstream VOC mass emission rate, in lb/hr.

407 CALCULATION FOR DETERMINING VOC EMISSIONS FOR STATIONARY SOURCES INCLUDING THOSE EXEMPT PURSUANT TO SECTIONS 104.1, 104.2 AND 104.7.

407.1 The total VOC emissions from materials shall be determined as follows:

$$E = \sum (E_1 + E_2)$$

407.2 VOC Emissions from Ink Usage:

$$E_1 = U_1 * P_1 * (1 - R)$$

Where:

- E_1 = VOC emissions from ink usage (lbs-VOCs/month)
 U_1 = ink usage as applied (gallons/month). This equals the ink usage in pounds per month divided by the density of the ink.
 P_1 = VOC content (lbs-VOC/gallon), applied as, determined pursuant to Section 502.1
 R = ink retention factor (20% for heat-set lithographic printing, 95% for non-heat set lithographic printing, and 0% for all other printing operations)

407.3 VOC Emissions from Material (except Inks) Usages:

$$E_2 = \sum_{i=1}^n (U_i) * (V_i)$$

Where:

- E_2 = VOC emissions from materials (except inks) used (lbs-VOCs/month)
 U_i = material usage, as applied, (gallons/month)
 V_i = VOC content in the material (lbs-VOC/gal), as applied, as determined pursuant to Section 502.1

500 MONITORING AND RECORDS

501 RECORDKEEPING: In addition to any existing permit conditions issued pursuant to Rule 501, General Permit Requirements, any person subject to this rule, including operations claiming exemption under Section 104.1, 104.2, and 104.7, shall comply with the following requirements:

501.1 List of Materials: A list shall be maintained of all materials currently used and/or stored at the site. The list shall include the following information:

- 501.1.1 Material type (e.g., adhesive, coating, ink, fountain solution, extreme performance ink/coating, or cleanup solvent) by name/code/manufacture and the appropriate material type category as designated in Sections 302 and 304.1 as applicable.
- 501.1.2 The actual VOC content of the materials (e.g., adhesive, coating, or ink) listed in Section 302.1, as applied excluding water and exempt compounds.
- 501.1.3 The actual VOC content of the fountain solution listed in Section 302.2 as applied, including water and exempt compounds in grams per liter or pounds per gallon. The VOC content as provided by the manufacturer may be acceptable if the fountain solution is used as supplied.
- 501.1.4 The actual VOC content of the cleaning materials listed in Section 304, as applied including water and exempt compounds in grams per liter or pounds per gallon.

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- 501.1.5 The VOC composite partial pressure for materials listed in Section 304.1, if applicable. The composite partial pressure shall be calculated pursuant to Sections 403 and 502.7.
- 501.1.6 The actual mixing ratio used for the material, as applied.
- 501.1.7 For inks, the density of the ink in lbs/gallon.
- 501.1.8 For aerosol adhesives exempt pursuant to Section 104.6, records of VOC content in the aerosol adhesive. The VOC content shall be recorded as percent by weight. The record shall also include the type of operation (i.e., substrate, purpose) for which the aerosol adhesive is used.
- 501.1.9 Identification of each material type exceeding the VOC limits specified in Sections 302 and 304.1 or the composite vapor pressure specified in Section 304.1.
- 501.2 Product Information: The information listed under Sections 402.1 through 402.5 shall be maintained on-site and made available to the Air Pollution Control Officer upon request.
- 501.3 Usage Records: Any person within the District using materials regulated by this rule shall update and maintain the records as required by this rule as follows:
 - 501.3.1 Monthly:
 - 501.3.1.1 Records of total applied volume in gallons or weight in pounds (weight allowed for ink only) for each material (including thinners, reducers, hardeners, retarders, catalysts, fountain solutions and cleaning materials), specified by material type as listed in Sections 302 and 304.1.
 - 501.3.1.2 For graphic arts operations exempt pursuant to Sections 104.1, 104.2, or 104.7, records of total VOC emissions from all materials (including thinners, reducers, hardeners, retarders, and catalysts) used for each calendar month in pounds. The records shall be determined using emission calculations specified in Section 407.
 - 501.3.1.3 Records of total applied volume for each material exceeding the VOC limits specified in Sections 302 and 304.1 by name/code/manufacture and material type.
 - 501.3.1.4 Records showing the percentage of Lithographic and Letter Press, Other Cleaning materials (i.e., metering rollers and plates) as calculated pursuant to Section 304.2.
- 501.4 Emission Control Equipment: Any person using emission control equipment pursuant to Section 303 as a means of complying with this rule shall maintain on a daily basis:

- 501.4.1 Such records as required by the Operation and Maintenance Plan in Section 401; and
- 501.4.2 Records of applied volume in gallon or by weight in pounds (weight allowed for ink only); and
- 501.4.3 Records of test reports conducted pursuant to Section 502.
- 501.5 Duration of Records: All records required by this rule shall be retained on-site for at least two years, except for sources subject to Rule 507, Federal Operating Permit Program, which shall be retained for at least five years. Such records shall be made available to the Air Pollution Control Officer upon request.

502 TEST METHODS

- 502.1 Determination of VOC Content: VOC content of the material (except as provided for in Section 502.2), as applied, shall be determined in accordance with EPA Method 24, Section 404 and Section 502.3, if less water and exempt compounds, or with EPA Method 24 and Section 404, if including water and exempt compounds.
- 502.2 Analysis of Samples, Non-Heatset Polymerizing Lithographic Or Letterpress Inks: Measurement of the volatile content shall be made in accordance with EPA Method 24. All components of the sample must be weighed in the proper proportion into the analysis container and mixed together, with the mixture then being allowed to stand for at least one hour, but no more than 24 hours, prior to being oven-dried at 110 °C for 1 hour.
- 502.3 Determination of Exempt Compounds: Compounds exempt pursuant to Section 213, shall be determined in accordance with ASTM D4457-91 or ARB Method 432. If any of the perfluorocarbons are being claimed as exempt compounds, the person making the claim must state in advance which compounds are present, and the EPA-approved test method used to make the determination of these compounds.
- 502.4 Determination Of Control Efficiency: Control efficiency of the control equipment shall be determined in accordance with applicable EPA Methods 18, 25, 25A, EPA Method 2 or 2C; and Section 406. (1) U.S. EPA Method 18, 25 or 25A, for VOC concentration, and (2) U.S. EPA Method 2 or 2C for flow rates, as applicable, and calculated in accordance with Section 406.
- 502.5 Determination Of Control Equipment Efficiency: Efficiency of the emission control equipment shall be based upon test measurements made in accordance with:
 - 502.5.1 USEPA Method 18, 25 or 25A, for VOC concentration, and
 - 502.5.2 USEPA Method 2 or 2C for flow rates, as applicable, and calculated in accordance with Section 406.
- 502.6 Determination of Collection Efficiency: Collection efficiency shall be determined in accordance with U.S. EPA technical guideline Document, *Guidelines for Developing Capture Efficiency dated January 9, 1995*.

Individual capture efficiency test runs subject to U.S. EPA technical guidelines shall be determined by:

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- 502.6.1 Applicable U.S. EPA methods 204, 204A, 204B, 204C, 2404D, 204E, and/or 204F; or
- 502.6.2 Any other method approved by the U.S. EPA, the California Air Resources Board, and the Air Pollution Control Officer.
- 502.7 Determination of VOC Composite Partial Pressure: VOC composite partial pressure shall be determined in accordance with Section 403 and Section 502.8.
- 502.8 Determination of Vapor Pressure: Vapor pressure of a VOC shall be determined in accordance with ASTM Method D2879-97, or may be obtained from the most current edition of a published source, including, but not limited to:
 - 502.8.1 *The Vapor Pressure of Pure Substances*, Boublik, Fried, and Hala; Elsevier Scientific Publishing Company, New York.
 - 502.8.2 *Perry's Chemical Engineer's Handbook*, McGraw-Hill Book Company.
 - 502.8.3 *CRC Handbook of Chemistry and Physics*, Chemical Rubber Publishing Company.
 - 502.8.4 *Lange's Handbook of Chemistry*, John Dean, editor, McGraw-Hill Book Company.

Notwithstanding the provisions of this section, the Air Pollution Control Officer may require the use of a vapor pressure determined in accordance with ASTM Method D2879-97 for determining compliance with this rule.

- 502.9 Determination of Metal Content in Inks: The metal content of metallic inks shall be determined in accordance with the South Coast Air Quality Management District's Method 318, "Determination of Weight Percent Elemental Metals in Coatings by X-ray Diffraction". Use of this method for determining the content of metals other than aluminum in metallic inks shall be subject to approval by the U.S. EPA, the California Air Resources Board, and the Air Pollution Control Officer.

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RULE 240 SURFACE PREPARATION AND CLEANUP

Adopted 06-08-95
(Amended 10-09-97,12-11-03)

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100 GENERAL

101 PURPOSE: The purpose of this rule is to reduce emissions of volatile organic compounds (VOC) from solvents used for surface preparation, maintenance and cleanup operations, and from the storage and disposal of all VOC-containing materials used in these operations.

102 APPLICABILITY:

102.1 Geographic: The provisions of this rule apply to all of Placer County.

102.2 Operations: This rule applies to all persons who engage in the production, repair, maintenance, or servicing of parts, products, tools, machinery, or equipment, and storage and disposal of VOC-containing materials used in solvent cleaning operations.

103 SEVERABILITY: If a court of competent jurisdiction issues an order that any provision of this rule is invalid, it is the intent of the Board of Directors of the District that other provisions of this rule remain in full force and effect, to the extent allowed by law.

104 EXEMPTIONS:

104.1 Low Volume: Usage of solvents for cleaning which does not exceed 38 liters (10 gallons) per calendar year, is exempt from the provisions of this rule except for recordkeeping requirements in Section 501.3.3.1.

104.2 The provisions of this rule do not apply to cleaning operations specifically subject to requirements under the following rules:

104.2.1 Rule 216, Organic Solvent Cleaning and Degreasing Operations;

104.2.2 Rule 223, Metal Can Coating;

104.2.3 Rule 227, Petroleum Dry Cleaning Operations;

104.2.4 Rule 234, Automotive Refinishing Operations;

104.2.5 Rule 235, Adhesives;

104.2.6 Rule 236, Wood Products Coating Operations;

104.2.7 Rule 239, Graphic Arts Operations, and

104.2.8 Rule 243, Polyester Resin Operations.

104.3 The provisions of this rule shall not apply to the following:

104.3.1 Cleaning with solvents that contain 50 grams per liter or less VOCs as applied including water and exempt compounds;

104.3.2 Cleaning of solar cells, laser hardware, scientific instruments, and high-precision optics;

104.3.3 Cleaning of cotton swabs to remove cottonseed oil before cleaning of high-precision optics;

104.3.4 Cleaning of paper-based gaskets and clutch assemblies where rubber is bonded to metal by means of an adhesive;

- 104.3.5 Cleaning of application equipment used to apply coatings on satellites and radiation effect coatings;
- 104.3.6 Cleaning of electrostatic coating application equipment; and
- 104.3.7 Janitorial cleaning, including graffiti removal.
- 104.4 The provisions of this rule, except for the recordkeeping requirements in Sections 501.1, 501.3.1, and 502, shall not apply to the following:
 - 104.4.1 Cleaning of sterilization ink indicating equipment provided that the solvent usage is less than 1.5 gallons per day with solvents that contain more than 50 grams/liter VOC as applied including water and exempt compounds.
 - 104.4.2 Cleaning with aerosol, provided that 160 fluid ounces or less of aerosol product are used per day, per stationary source with solvents that contain more than 50 grams/liter VOC as applied including water and exempt compounds.
- 104.5 The provisions of Section 302 shall not apply to the cleaning of the nozzle tips of automated spray equipment systems, except for robotic systems.

200 DEFINITIONS

- 201 **ADHESIVE:** Any material that is used to bond one surface to another surface by attachment.
- 202 **AEROSOL CLEANER:** A material used as a surface preparation solvent, a cleanup solvent, or as a stripper and consisting of liquid and/or gaseous solvent and propellants packaged in a hand-held, pressurized, non-refillable container. The container expels pressurized aerosol materials when a valve on the container is depressed.
- 203 **APPLICATION EQUIPMENT:** A device used to apply adhesive, coating, ink, or polyester resin materials.
- 204 **APPURTENANCE:** Any accessory to a stationary structure, whether installed or detached at the proximate site of installation, including, but not limited to: hand railings, cabinets, bathroom and kitchen fixtures, elevators, doors, partitions, stairways, fixed ladders, catwalks, fire escapes, fences, rain-gutters and down spouts, window screens, lamp-posts, heating and air conditioning equipment, pipes and piping systems, other fixed mechanical equipment, large fixed stationary tools, and concrete forms.
- 205 **ARCHITECTURAL COATING:** Any coating applied to stationary structures and their appurtenances, to portable buildings, to pavements or to curbs.
- 206 **ARCHITECTURAL COATINGS APPLICATION EQUIPMENT CLEANING:** The cleaning of architectural coating application equipment such as paint spray guns, brushes, and hoses. For the purpose of this rule, the cleaning of architectural coating application equipment used for coating of prefabricated architectural components is not subject to the requirements of this rule.
- 207 **CLOSED CONTAINER:** A container, which has a nonabsorbent cover where the cover meets with the main body of the container without any visible gaps between the cover and the main body of the container.

- 208 COATING:** A material applied onto or impregnated into a substrate for protective, decorative, or functional purposes. Such materials include, but are not limited to, paints, varnishes, sealers, and stains.
- 209 DEGREASER:** A tank, tray, drum, or other container in which the objects to be cleaned are exposed to a solvent or solvent vapor in order to remove contaminants.
- 210 ELECTRICAL APPARATUS COMPONENTS:** An internal component such as wires, windings, stators, rotors, magnets, contacts, relays, energizers, and connections in an apparatus that generates or transmits electrical energy including, but not limited to: alternators, generators, transformers, electric motors, cables, and circuit breakers, except for the actual cabinet in which the components are housed. Electrical components of graphic arts application equipment and hot-line tools are also included in this category.
- 211 ELECTRONIC COMPONENTS:** The portion of an assembly, that includes circuit board assemblies, printed wire assemblies, printed circuit boards, soldered joints, ground wires, bus bars, and other electrical fixtures, except for the actual cabinets in which the components are housed.
- 212 ENCLOSED GUN CLEANER:**
- 212.1 A device used for the cleaning of spray guns, pots and hoses, which has an enclosed solvent container, is not open to the ambient air when in use, and has a mechanism to force the cleanup material through the gun while the cleaner is in operation; or
- 212.2 A device used for the cleaning of spray guns, pots and hoses, which has an enclosed solvent container, uses non-atomized solvent flow to flush the spray equipment and collects and returns the discharged solvent to the enclosed container.
- 213 EXEMPT COMPOUNDS:** For the purposes of this rule, exempt compounds are determined in accordance with Section 503.2, and are listed in Rule 102, Definitions.
- 214 HIGH PRECISION OPTICS:** An optical element used in an electro-optical device and which is designed to sense, detect, or transmit light energy, including specific wavelengths of light energy and changes in light energy levels.
- 215 HOT-LINE TOOL:** A specialized tool used primarily on the transmission systems, sub-transmission systems and distribution systems for replacing and repairing circuit components or for other types of work with electrically energized circuits.
- 216 INK:** Any fluid or viscous composition used in printing, impressing, or transferring an image onto a substrate.
- 217 JANITORIAL CLEANING:** The cleaning of building or facility components, such as the floor, ceiling, walls, windows, doors, stairs, bathrooms, etc.
- 218 KEY SYSTEM OPERATING PARAMETER:**
- 218.1 A variable that is critical to the operation of an emission control system and that ensures:
- 218.1.1 Operation of the system within the system manufacturer's specifications, and
- 218.1.2 Compliance with the overall system efficiency standard required by Section 303.

218.2 Variables described in Section 218.1 may include, but are not limited to:

218.2.1 Hours of operation,

218.2.2 Temperature,

218.2.3 Flow rate, and

218.2.4 Pressure.

219 LEAK: A leak is:

219.1 The dripping of liquid volatile organic compounds in excess of three drops per minute; or

219.2 The appearance of a visible mist.

220 MAINTENANCE CLEANING: A solvent cleaning operation or activity performed to keep parts product, tools, machinery, equipment (excluding application equipment, or general work areas), in clean and good operating condition.

221 MANUFACTURING PROCESS: The process of making goods or articles by hand or by machinery.

222 MEDICAL DEVICE: An instrument, apparatus, implement, machine, contrivance, implant, in vitro reagent or other similar article, including any component or accessory, that meets one of the following conditions:

222.1 it is intended for use in the diagnosis of disease or other conditions, or in the cure, mitigation, treatment, or prevention of disease; or

222.2 it is intended to affect the structure or any function of the body; or

222.3 it is defined in the National Formulary or the United States Pharmacopoeia, or any supplement to them.

223 NON-ABSORBENT CONTAINERS: Containers made of nonporous material, which do not allow the migration of the liquid solvent through them.

224 NON-ATOMIZED SOLVENT FLOW: The use of a solvent in the form of a liquid stream without atomization to remove uncured inks, uncured adhesives, uncured coatings and contaminants from an article.

225 NON-COMPLIANT SOLVENT: A solvent that:

225.1 exceeds the VOC content limits specified in Section 301.1 and 301.2 and

225.2 is not exempt pursuant to Section 104, and

225.3 is used at a facility that does not use emission control equipment pursuant to Section 303.

226 NON-LEAKING CONTAINER: A container without a leak.

227 PERSON: Any firm, business establishment, association, partnership, corporation or individual, whether acting as principal, agent, employee, or any other capacity including any governmental entity or charitable organization.

- 228 POLYESTER RESIN:** Unsaturated polyester resin such as isophthalic, orthophthalic, halogenated, bisphenol-A, vinyl-ester, or furan resin; cross-linking agent; catalyst, gel coat, inhibitor, accelerator, promoter, and any other VOC-containing material comprising a resin made from polyester. Inert filler and cleaning material are excluded from this definition.
- 229 PREFABRICATED ARCHITECTURAL COMPONENTS:** Prefabricated metal parts and products, which are to be used as architectural appurtenances or structures and which are coated in a shop environment, not including window frames and door frames.
- 230 PRINTING:** Any operation that imparts color, design, alphabet, or numerals on a substrate.
- 231 PRODUCT CLEANING:** The cleaning of parts or components in a process of making goods or articles by hand or by machinery from those parts or components.
- 232 RADIATION-EFFECT COATING:** A material that prevents radar detection.
- 233 REPAIR CLEANING:** A solvent-cleaning operation or activity performed during a repair process.
- 234 REPAIR PROCESS:** The process of returning a damaged object or an object not operating properly to good condition.
- 235 SCIENTIFIC INSTRUMENT:** An instrument (including the components, assemblies, and subassemblies used in their manufacture and associated accessories and reagents that is used for the detection, measurement, analysis, separation, synthesis, or sequencing of various compounds.
- 236 SOLVENT:** A VOC-containing liquid used to perform solvent cleaning operations.
- 237 SOLVENT CLEANING:** The removal of loosely held uncured inks, uncured coatings, and contaminants which include, but are not limited to: dirt, soil, and grease from parts, products, tools, machinery, and equipment. Each distinct method of cleaning in a cleaning process, which consists of a series of cleaning methods shall constitute a separate solvent cleaning operation.
- 238 SOLVENT CONTAINER:** That part of a cleaning device that holds the solvent.
- 239 SOLVENT FLUSHING:** The use of a solvent to remove uncured inks, uncured coatings, or contaminants from the internal surfaces and passages of the equipment by flushing solvent through the equipment.
- 240 STATIONARY SOURCE:** Any building, structure, facility, or emissions unit, which emits or may emit any affected pollutant directly or as a fugitive emission. This includes all pollutant-emitting activities which:
- 240.1 Belong to the same industrial grouping, and
 - 240.2 Are located on one property or on two or more contiguous properties, and
 - 240.3 Are under the same or common ownership, operation, or control or which are owned or operated by entities, which are under common control.
- Pollutant-emitting activities shall be considered as part of the same industrial grouping if they:
- 240.4 Belong to the same two-digit standard industrial classification code, or

240.5 Are part of a common production process. (Common production process includes industrial processes, manufacturing processes and any connected processes involving a common material.)

241 STERILIZATION INDICATING INK: Ink that changes color to indicate that sterilization has occurred. Such ink is used to monitor the sterilization of medical instruments, autoclave efficiency, and the thermal processing of foods for the prevention of spoilage.

242 STRIPPING: The removal of cured coatings, cured inks, and cured adhesives.

243 SUBSTRATE: The material upon which another material is coated or fabricated.

244 SURFACE PREPARATION: The removal of contaminants such as dust, soil, oil, or grease, before coating or ink applications.

245 UNCURED COATINGS AND UNCURED INKS: Coatings and inks that are not dry to the touch.

246 VOLATILE ORGANIC COMPOUND (VOC): Any chemical compound containing at least one atom of carbon, except for the Exempt Compounds listed in Rule 102, Definitions.

247 VOC COMPOSITE PARTIAL PRESSURE: The sum of the partial vapor pressures of the compounds defined as VOCs, as determined in accordance with Sections 403 and 503.3

248 VOLATILE ORGANIC COMPOUND (VOC) AS APPLIED: A VOC as applied means the VOC content of the cleaning solvent as applied, including any diluters, and calculated pursuant to Section 503.1.

249 VOLATILE ORGANIC COMPOUND (VOC) AS SUPPLIED: A VOC as supplied means the VOC content of the original material as supplied by the manufacturer and calculated pursuant to Section 503.1.

250 WIPE CLEANING: The method of cleaning a surface by physically rubbing it with a material such as a rag, paper, or a cotton swab moistened with a solvent.

300 STANDARDS

301 SOLVENT REQUIREMENTS:

301.1 Until December 11, 2004, a person shall not use a solvent to perform cleaning operations, including the use of cleaning devices or methods, unless it complies with the following applicable requirements:

301.1.1 Manufacturing Processes and Coating, Adhesive, or Ink Applications: The solvent used to clean substrates during the manufacturing process, or used for surface preparation of substrates before coating, adhesive, or ink applications shall have a VOC content equal to or less than 70 grams of VOC per liter of material, as calculated in accordance with Sections 401 and 503.1.

301.1.2 Repair and Maintenance: Solvents used for repair or maintenance cleaning shall have a VOC content of 900 grams or less of VOC per liter of material, as calculated in accordance with Sections 401 and 503.1 **and** a VOC composite partial pressure of 20 mm Hg or less at 20 °C (68 °F), as calculated in accordance with Sections 401 and 503.3.

301.1.3 Coatings Application Equipment: Solvents used for cleaning coatings application equipment shall have a VOC content of 950 grams or less of VOC per liter of material, as calculated in accordance Sections 401 and 503.1 and 503.2 and a VOC composite partial pressure of 35 mm Hg or less at 20 °C (68 °F), as calculated in accordance with Sections 401 and 503.3.

301.1.4 Electronic Assemblies: Solvents used for manufacturing or maintenance cleaning of electronic assemblies shall have a VOC content of 900 grams or less of VOC per liter of material, as calculated in accordance with Sections 401 and 503.1 **and** a VOC composite partial pressure of 33 mm Hg or less at 20 °C (68 °F), as calculated in accordance with Sections 401 and 503.3.

301.1.5 Polyester Resin Application: Solvents used for cleaning polyester resin application equipment shall comply with any one of the limits specified below:

301.1.5.1 The solvent shall have a VOC content of 200 grams or less VOC per liter of material, as calculated in accordance with Sections 401 and 503.1; or

301.1.5.2 The solvent shall have a VOC content of 1100 grams or less of VOC per liter of material, as calculated in accordance with Sections 401 and 503.1, **and** a VOC composite partial pressure of 1.0 mm Hg or less at 20 °C (68 °F), as calculated in accordance Sections 401 and 503.3 or

301.1.5.3 In lieu of complying with either of the VOC limitations in Sections 301.1.5.1 and 301.1.5.2, above, a person may comply by using a solvent residue reclamation system. Reclamation may be done either on-site or off-site through a reclamation facility. The on-site reclamation system shall operate at least at 80 percent efficiency, by weight, and the solvent residues shall contain not more than 20 percent VOC, by weight.

301.2 Effective December 11, 2004 a person shall not perform solvent cleaning unless the solvent has a VOC content, as applied (as determined per Sections 401 and 503.1) equal to or less than the applicable VOC limit in the table below. The VOC content shall be calculated based on grams per liter of solvent or pounds per gallon of solvent including water and exempt compounds.

Solvent Cleaning Activity	VOC Content g/l (lb/gal)
	(Effective December 11, 2004)
General (wipe cleaning, maintenance cleaning)	50 (0.42)
Product Cleaning During Manufacturing Process or Surface Preparation for Coating, Adhesive, Sealants, or Ink Application	
General	50 (0.42)
Electrical Apparatus Components and Electronic Components	500 (4.2)
Medical Devices and Pharmaceuticals	800 (6.7)

Solvent Cleaning Activity	VOC Content g/l (lb/gal)
	(Effective December 11, 2004)
Repair and Maintenance Cleaning	
General	50 (0.42)
Electrical Apparatus Components and Electronic Components	900 (7.5)
Medical Devices and Pharmaceuticals	
General Work Surfaces	600 (5.0)
Tools, Equipment, and Machinery	800 (6.7)
Platelets	800 (6.7)
Architectural Coating Application Equipment	
Water based Coatings	50 (0.42)
Solvent based Coatings – Jobsite and No Enclosed Gun Cleaner	300 (2.5)

302 CLEANING DEVICES AND METHODS: A person shall not perform solvent cleaning unless one of the following cleaning devices or methods is used:

- 302.1 Wipe cleaning.
- 302.2 Cleaning within closed containers or by using hand held spray bottles from which solvents are applied without a propellant-induced force.
- 302.3 Using cleaning equipment which has a solvent container that is closed during cleaning operations, except when depositing and removing objects to be cleaned, and is closed during non-operation with the exception of maintenance and repair to the cleaning equipment itself.
- 302.4 Using remote reservoir degreaser, non-vapor degreaser, or vapor degreaser used pursuant to the provisions of Rule 216, Organic Solvent Cleaning and Degreasing Operations.
- 302.5 Using solvent flushing methods where the cleaning solvent is discharged into a container, which is, closed except for the solvent collection openings and, if necessary, openings to avoid excessive pressure buildup inside the container. The discharged solvent from the equipment must be collected into containers without atomizing into the open air. The solvent may be flushed through the system by air or hydraulic pressure, or by pumping.
- 302.6 Using an enclosed gun cleaner for the cleaning of application equipment, except as listed in Section 302.7 or by using a solvent that contains 50 grams per liter or less VOCs for cleaning of spray guns if no enclosed gun cleaner is used.
- 302.7 Using solvents that comply with the VOC limits in Section 301 and cleaning methods in Section 302.5 for cleaning of application equipment used to apply architectural coatings at the jobsite.
- 302.8 Cleaning of spray gun nozzles by soaking in solvent provided the container (not to exceed five (5) gallons in size) is kept tightly covered at all times except when accessing the container.

302.9 Regardless of cleaning method, any spray discharge of solvent into the open air is prohibited at all times.

303 EMISSION CONTROL SYSTEM: As an alternative to complying with Sections 301 and 302, a person may use air pollution control equipment provided it satisfies the following conditions:

303.1 The air pollution control equipment is approved by the Air Pollution Control Officer pursuant to Rule 501, General Permit Requirements, and

303.2 The air pollution control equipment is designed and operated with:

303.2.1 A control device efficiency of at least 95 percent on a mass basis, as determined pursuant to Sections 402 and 503.5, and

303.2.2 An emission collection efficiency of at least 90 percent on a mass basis of the emissions generated by the solvent cleaning operations, as determined pursuant to Section 503.6, or

303.2.3 An output of less than 50 parts per million calculated as carbon with no dilution.

304 STORAGE AND DISPOSAL:

304.1 All VOC-containing materials used in solvent cleaning operations, such as solvents, and cloth and paper moistened with solvents, shall be stored in non-absorbent containers with no liquid leaks. Such containers shall be kept closed at all times except when filling or emptying.

304.2 All spent solvents shall be disposed of properly. Spent cleanup solvents may be classified as hazardous waste. The owner or operator shall obtain approval from applicable local, state, or federal water pollution control agency prior to disposing of spent solvents into the sewer or storm drain systems.

400 ADMINISTRATIVE

401 CALCULATION FOR DETERMINING VOC CONTENT OF CLEANING SOLVENTS INCLUDING WATER AND EXEMPT COMPOUNDS: For the VOC content as applied, the volume of solvent is defined as the volume of the original solvent, plus any material added to the original solvent (e.g., thinners or reducers). For the VOC content as supplied, the volume of solvent is defined as the volume of the original solvent. The weight of VOC per total volume of solvent shall be calculated by the following equation:

$$G_2 = \frac{W_v - W_w - W_{ec}}{V_m}$$

Where: G_2 = Weight of VOC per total volume of solvent, in grams per liter
 W_v = Weight of all volatile compounds, in grams
 W_w = Weight of water, in grams
 W_{ec} = Weight of exempt compounds, in grams
 V_m = Volume of solvent, in liters

402 CALCULATION FOR DETERMINING PERCENT CONTROL EFFICIENCY AND VOC MASS EMISSION RATE: The VOC mass emission rate shall be calculated both upstream and downstream of the emissions control device based on the VOC mass concentration, collection efficiency, and volumetric flowrate, pursuant to Section 503.5, and 503.6 and the following equations:

402.1 VOC mass emission rate:

$$M = (Q) * (C) * (60 \frac{m}{hr}) \text{ (calculated upstream and downstream)}$$

Where: M = VOC mass emission rate (upstream/downstream), in lb/hr.
 Q = the volumetric flowrate at the inlet (upstream) or exhaust stack outlet (downstream), in standard cubic feet per minute as determined by Section 503.9.
 C = the VOC mass concentration at the inlet (upstream) or outlet (downstream), in pounds per standard cubic feet, as determined pursuant to Section 503.9.

402.2 The percent control efficiency is calculated as follows:

$$\%CE = \left(\frac{M_u - M_d}{M_u} \right) * 100$$

Where: CE = control efficiency.
 M_u = the upstream VOC mass emission rate, in lb/hr.
 M_d = the downstream VOC mass emission rate, in lb/hr.

403 CALCULATION FOR DETERMINING VOC COMPOSITE PARTIAL PRESSURE: VOC composite partial pressure shall be calculated by the following equation:

$$PP_c = \frac{\sum_{i=1}^n \frac{(W_i)(VP_i)}{MW_i}}{\frac{W_w}{MW_w} + \sum_{e=1}^n \frac{W_e}{MW_e} + \sum_{i=1}^n \frac{W_i}{MW_i}}$$

Where: PP_C = VOC composite partial pressure at 20 °C, in mm Hg.
 W_i = Weight of the "i"th VOC compound, in grams as determined by ASTM E 260-96.
 W_w = Weight of water, in grams as determined by ASTM D 3792-99.
 W_e = Weight of the "e"th exempt compound, in grams, as determined by ASTM E 260-96.
 MW_i = Molecular weight of the "i"th VOC compound, in grams per g-mole, as given in chemical reference literature.
 MW_w = Molecular weight of water, 18 grams per g-mole.
 MW_e = Molecular weight of the "e"th exempt compound, in grams per g-mole, as given in chemical reference literature.
 VP_i = Vapor pressure of the "i"th VOC compound at 20°C, in mm Hg, as determined by Section 503.4 of this rule.

404 OPERATION AND MAINTENANCE PLAN: Any person using an approved emission control equipment pursuant to Section 303 must submit an Operation and Maintenance Plan for the emissions control equipment to the Air Pollution Control Officer for approval. This Plan shall specify operation and maintenance procedures that demonstrate continuous operation and compliance of the emissions control equipment during periods of emissions-producing operations. This Plan shall specify key system operating parameters, such as temperatures, pressures, and/or flow rates, necessary to determine compliance with this rule and shall describe in detail procedures to maintain the approved control device. The plan shall specify which records must be kept to document these operations and maintenance procedures. The records shall comply with the

requirements of Section 501. This Plan shall be implemented upon approval by the Air Pollution Control Officer.

405 PRODUCT INFORMATION REQUIREMENTS FOR SELLERS: Any person who sells any solvent subject to this rule shall make available to the purchaser at the time of sale the following information:

405.1 The solvent type by name/code/manufacture;

405.2 The maximum VOC content of the cleanup solvent as applied. The VOC content shall be displayed as grams of VOC per liter of solvent (or pounds of VOC per gallon), including water and exempt compounds as determined pursuant to Section 503.1.

405.3 Recommendations regarding thinning, reducing, or mixing with any solvent, if applicable.

406 VIOLATIONS: Failure to comply with any provision of this rule shall constitute a violation of the rule.

500 MONITORING AND RECORDS

501 RECORDKEEPING: Any person subject to this rule, shall comply with all of the following applicable requirements:

501.1 List of Solvents: A list shall be maintained of all solvents currently used and/or stored at the site. The list shall include the following information:

501.1.1 Cleaning solvent type by name/code/manufacture.

501.1.2 The actual VOC content of cleaning solvents listed in Section 301, as applied including water and exempt compounds.

501.1.3 The actual mixing ratio for the cleaning solvent as applied.

501.2 Product Information: The information listed under Section 405 shall be maintained on-site and made available to the Air Pollution Control Officer upon request.

501.3 Usage Records: Any person within the District using cleaning solvents regulated by this rule shall update and maintain the records as required by this rule as follows:

501.3.1 Daily: Any person claiming an exemption from this rule pursuant to Section 104.4 shall maintain the following records.

501.3.1.1 Records of total applied volume in gallons per day of solvents used for cleaning of sterilization ink indicating equipment.

501.3.1.2 Records of total volume of aerosol products in ounces used.

501.3.2 Monthly:

501.3.2.1 Record of total applied volume in gallons for each cleaning solvent used, and

501.3.2.2 Record of solvent cleaning activity associated with each solvent used.

501.3.3 Annually:

501.3.3.1 Low Volume Usage: Any person claiming partial exemption from this rule for low volume of solvent usage, pursuant to Section 104.1, shall maintain records of the type and volume of solvent used, as required by Section 502, on an annual basis.

501.4 Emission Control Equipment: Any person using an emission control equipment pursuant to this rule shall maintain records, on a daily basis, of key system operating parameters for emission control equipment, including, but not limited to:

501.4.1 Hours of operation;

501.4.2 Routine and non-routine maintenance; and

501.4.3 The records required by Section 404 as part of the Operation and Maintenance Plan.

501.4.4 Records of test reports conducted pursuant to Section 503.

502 RETENTION OF RECORDS: All records required by this rule shall be retained on-site for at least two years, except for sources subject to Rule 507, Federal Operating Permit Program, which shall be retained for at least five years. Such records shall be made available to the Air Pollution Control Officer upon request.

503 TEST METHODS

503.1 Determination of VOC Content: VOC content of solvents shall be determined in accordance with United States Environmental Protection Agency (U.S. EPA) Method 24 and Sections 401 and 503.2 of this rule.

503.2 Determination Of Compounds Exempt From VOC Definition: Compounds exempt from the VOC definition, as listed in Rule 102, Definitions, shall be determined in accordance with ASTM D4457-91 or ARB Method 432. If any of the perfluorocarbons or volatile cyclic and linear methyl siloxanes are being claimed as exempt compounds, the person making the claim must state in advance which compounds are present, and the EPA-approved test method used to make the determination of these compounds.

503.3 Determination Of VOC Composite Partial Pressure: VOC composite partial pressure shall be determined in accordance with ASTM E260-96 for organic compounds, and ASTM D3792-91 for water content as applicable, and Sections 403 and 503.4 of this rule.

503.4 Determination of Vapor Pressure: Vapor pressure of a VOC shall be determined in accordance with ASTM Method D2879-96, or may be obtained from a published source such as:

503.4.1 "The Vapor Pressure of Pure Substances", Boublik, Fried, and Hala; Elsevier Scientific Publishing Company, New York, 1973.

503.4.2 "Perry's Chemical Engineer's Handbook", McGraw-Hill Book Company, 1984.

503.4.3 "CRC Handbook of Chemistry and Physics, Chemical Rubber Publishing Company, 1986-87.

- 503.4.4 "Lange's Handbook of Chemistry", John Dean, ed., McGraw-Hill Book Company, 1985. DETERMINATION OF SOLVENT COMPONENTS: The identity of components in solvents shall be determined by U.S. EPA Method 18.
- 503.5 Determination of Control Device Efficiency: Control efficiency of the emissions control equipment shall be determined in accordance with United States Environmental Protection Agency Method 18, 25, or 25A (whichever is applicable).
- 503.6 Determination of Collection Efficiency: Collection efficiency shall be determined in accordance with U.S. EPA "Guidelines for Determining Capture Efficiency, January 9, 1995". Individual capture efficiency test runs subject to United States Environmental Protection Agency technical guidelines shall be determined by:
- 503.6.1 Applicable U.S. EPA methods 204, 204A, 204B, 204C, 204E, and/or 204F; or
- 503.6.2 Any other method approved by the U.S. EPA, the California Air Resources Board, and the Air Pollution Control Officer.
- 503.7 Multiple Test Methods: When more than one test method or set of test methods is specified for any testing, a violation of any requirement of this rule established by any one of the specified test methods shall constitute a violation of this rule.
- 503.8 Test Method Updates: Future U.S. EPA-approved revisions of any test methods referenced in Section 503 shall then become the applicable versions with respect to this rule.
- 502.9 Determination of Volumetric Flowrate: Volumetric flowrate shall be determined in accordance with United States Environmental Protection Agency Methods 2, 2A, 2C, or 2D (whichever is applicable).

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RULE 241 BOILERS AT PLASTIC LAMINATE MANUFACTURING FACILITIES

Adopted 04-08-99

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100 GENERAL

101 PURPOSE: To limit the emissions of Nitrogen Oxides (NOx) from boilers and steam generators fueled with a combination of natural gas and waste fuel from paper treating operations at plastic laminate manufacturing facilities.

102 APPLICABILITY

102.1 Geographic: The provisions of this rule apply to facilities in all of Placer County.

102.2 Business Category: This rule applies to boilers and steam generators that have a primary energy source of natural gas and waste fuel from paper treating operations at plastic laminate manufacturing facilities with Standard Industrial Classification (SIC) of 3083.

103 EXEMPTIONS

103.1 Exemption, Boilers, Steam Generators, and Process Heaters: This rule shall not apply to boilers, steam generators, and process heaters subject to Rule 231, Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters. Boilers at plastic laminate manufacturing facilities that use gaseous or liquid fuels exclusively shall be subject to Rule 231.

103.2 Exemption, Boilers and Steam Generators Subject to Rule 241: Rule 231 shall not apply to boilers subject to Rule 241.

103.3 Exemption, Municipal Solid Waste: This rule shall not apply to combustion units whose primary purpose is to burn municipal solid waste, as defined in Section 201.

200 DEFINITIONS

201 MUNICIPAL SOLID WASTE: Municipal waste includes household, commercial/retail, or institutional waste. Household waste includes material discarded by single or multiple residential dwellings, hotels, motels, and other similar permanent or temporary housing establishments or facilities. Commercial/retail waste includes material discarded by stores, offices, restaurants, warehouses, nonmanufacturing activities at industrial facilities, and other similar establishments or facilities. Institutional waste includes material discarded by schools, hospitals, prisons, and government facilities and other similar establishments or facilities.

202 NOX EMISSIONS: The sum of nitric oxides and nitrogen dioxide in the flue gas, collectively expressed as nitrogen dioxide (NO₂).

203 PAPER TREATING OPERATIONS: A paper coating process in which a uniform layer of phenolic or melamine resin is applied either by (a) dipping a continuous, moving paper substrate into the resin and then using rollers to squeeze the excess resin from the paper, or (b) applying the resin directly to the paper substrate with a roll applicator. Paper treating operations also include lamination of resin-impregnated paper and trimming, cutting, and sanding of laminated sheets and related processes.

- 204 PARTS PER MILLION BY VOLUME (PPMV):** The ratio of the number of gas molecules of a given species, or group, to the number of millions of total gas molecules.
- 205 RESPONSIBLE OFFICIAL:** An individual with the authority to certify that a source complies with all applicable requirements, including the conditions of permits issued to sources in accordance with Regulation 5, PERMITS. A "responsible official" means one of the following:
- 205.1 For a corporation, a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:
 - 205.1.1 The facilities employ more than 250 persons or have gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars); or
 - 205.1.2 The delegation of authority to such representative is approved in advance by the Air Pollution Control Officer.
 - 205.2 For a partnership or sole proprietorship, a general partner or the proprietor, respectively; or
 - 205.3 For a municipality, state, federal, or other public agency, either a principal executive officer or a ranking elected official; or
 - 205.4 For an acid rain unit subject to Title IV (Acid Deposition Control) of the Clean Air Act, the "responsible official" is the designated representative of that unit for any purposes under Title V and Rule 507, Federal Operating Permits Program.
- 206 WASTE FUEL:** Material from trimming, cutting and sanding of laminated sheets of resin impregnated paper.
- 207 UNIT:** Any boiler or steam generator subject to this rule.
- 300 STANDARDS**
- 301 LIMITATIONS**
- 301.1 No person shall allow the discharge of NOX emissions into the atmosphere from a unit subject to this rule in excess of the following limitations, whichever is less stringent:
 - 301.1.1 An exhaust concentration of 150 parts per million by volume (ppmv) referenced at dry stack-gas conditions and 3.00 percent by volume stack-gas oxygen on a three-hour average basis.
 - 301.1.2 An exhaust emission rate of 15.5 pounds per hour on a three-hour average basis.

- 301.2 No person shall allow the discharge of carbon monoxide (CO) emissions from units subject to this rule in excess of 400 parts per million by volume (ppmv referenced at dry stack-gas conditions and 3.00 percent by volume stack-gas oxygen, on a three-hour average basis.

400 ADMINISTRATIVE REQUIREMENTS

401 COMPLIANCE SCHEDULE

- 401.1 Any person operating a unit subject to this rule shall demonstrate full compliance with the requirements of Section 301 by November 26, 1999.
- 401.2 Any person operating a unit subject to this rule shall demonstrate compliance with the requirements of Section 301 in accordance with the following schedule:
- 401.2.1 By August 31, 1999, complete all modifications necessary to allow compliance with the requirements of this rule.
- 401.2.2 By September 30, 1999, complete compliance source tests in accordance with Section 502.
- 401.2.3 By November 26, 1999, achieve full compliance with the requirements of Section 301.

402 OPERATION AND MAINTENANCE PLAN: Any person operating a unit subject to this rule shall submit an Operation and Maintenance Plan by September 30, 1999.

- 402.1 The Operation and Maintenance Plan shall specify:
- 402.1.1 Operation and maintenance procedures that will demonstrate continuous operation of the emission control system during emission-producing operations; and
- 402.1.2 Records that must be kept to document the operation and maintenance procedures.
- 402.2 All records must comply with Section 501.
- 402.3 A revised Operation and Maintenance Plan shall be submitted or resubmitted in conjunction with any changes in the procedures addressed in the plan, or upon the request of the Air Pollution Control Officer.

403 COMPLIANCE COSTS: A person operating a unit subject to this rule shall bear all expenses associated with compliance with the monitoring and reporting provisions of this rule.

404 CERTIFICATION: All reports and plans submitted in accordance with this rule shall be signed by a responsible official who shall certify the truth, accuracy, and completeness of the report.

500 MONITORING AND RECORDS

501 RECORDKEEPING: A person operating a unit subject to this rule shall keep the following records for each unit:

- 501.1 Calendar date of record.
- 501.2 Number of hours the unit is operated during each day.
- 501.3 Boiler steam load.
- 501.4 Fuel types, including gaseous, liquid, or solid fuels, and amounts on a monthly basis.
- 501.5 Duration of startups and shutdowns.
- 501.6 Type and duration of maintenance and repairs.
- 501.7 Results of compliance tests.

502 COMPLIANCE TESTS

- 502.1 A person operating a unit subject to this rule shall conduct an initial compliance test no later than September 30, 1999. Additional source testing may be required by the Air Pollution Control Officer as necessary to ensure compliance with the standards set forth in Section 301. Compliance source testing is required on an annual basis for sources subject to Rule 507, Federal Operating Permit Program.
 - 502.1.1 All source tests shall be made in the as-found operating condition, except that source tests shall include at least one test conducted at the maximum feasible firing rate allowed by the District permit. No source test shall be conducted within two hours after a continuous period in which fuel flow to the unit is zero, or shut off, for thirty minutes or longer.
 - 502.1.2 The compliance tests shall be conducted for Nitrogen Oxides (NO_x), Carbon Monoxide (CO), Carbon Dioxide (CO₂), and Oxygen (O₂) using the test methods specified in Section 503.
- 502.2 At least thirty (30) days prior to the compliance source tests, a written test plan detailing the test methods and procedures to be used shall be submitted for approval by the Air Pollution Control Officer. The plan shall cite the test methods to be used for the determination of compliance with the emission limitations of this rule. The plan shall provide the proposed procedures for the characterization of the waste materials to be burned during testing.
- 502.3 A report of the compliance test shall be submitted to the District within sixty (60) days of completion of the source test.

503 TEST METHODS: A person conducting source tests in accordance with Section 502 shall use the following test methods:

503.1 Nitrogen Oxides (NOX): ARB Test Method 100, Title 17, CCR, Section 94114, Procedures for Continuous Emission Stack Sampling, or EPA Test Method 7E, 40 CFR 60, Appendix A. A violation determined by any of these test methods shall constitute a violation of this rule.

503.2 Carbon Monoxide (CO): ARB Test Method 10, Title 17, CCR, Section 94109, Determination of Carbon Monoxide Emissions from Stationary Sources, or ARB Test Method 100, or EPA Test Method 10, 40 CFR 60, Appendix A. A violation determined by any of these test methods shall constitute a violation of this rule.

503.3 Oxygen (O₂): ARB Test Method 100, Title 17, CCR, Section 94114, Procedures for Continuous Emission Stack Sampling, or EPA Test Method 3A, 40 CFR 60, Appendix A.

503.4 Carbon Dioxide (CO₂): ARB Test Method 100, Title 17, CCR, Section 94114, Procedures for Continuous Emission Stack Sampling, or EPA Test Method 3A, 40 CFR 60, Appendix A.

504 EMISSION REDUCTION CREDITS: For the purpose of Rule 504, Emission Reduction Credits, emission reductions from such shutdown or modification or from a reduction of waste fuel shall be considered surplus only to the extent that the historical actual emissions do not exceed those which would be achieved by a boiler operating in compliance with Rule 231. Reductions in emissions from retrofitting a boiler to meet the requirements of Rule 241 shall not be available as emission reduction credits.

505 DURATION OF RECORDS: All records maintained pursuant to this rule shall be retained for at least two years from date of entry, with the exception that sources subject to the requirements of Rule 507, Federal Operating Permit Program, shall retain records at least five years. Records shall be made available for inspection by the Air Pollution Control Officer upon request.

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RULE 242 STATIONARY INTERNAL COMBUSTION ENGINES

Adopted 4-10-03

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100 GENERAL

101 PURPOSE: To limit the emission of nitrogen oxides (NOx) and carbon monoxide (CO) from stationary internal combustion engines.

102 APPLICABILITY

102.1 Geographic: The provisions of this rule apply to facilities located anywhere in Placer County.

102.2 Application: This rule applies to any stationary internal combustion engine rated at more than 50 brake horsepower and using any gaseous fuel or liquid fuel, including liquid petroleum gas (LPG), gasoline or diesel fuel. This rule shall not apply to engines used directly and exclusively for agricultural operations necessary for the growing of crops or the raising of fowl and animals.

102.3 Severability: If any section, subsection, sentence, clause, phrase or portion of this rule is, for any reason, held invalid, unconstitutional, or unenforceable by any court of competent jurisdiction, that portion shall be deemed as a separate, distinct and independent provision, and the holding shall not affect the validity of the remaining portions of the rule.

103 EXEMPTIONS:

103.1 Exemption, Operating Hours: The provisions of this rule shall not apply to any engine operated less than 200 hours per calendar year.

103.2 Exemption, Emergency Stand-By Engines: The provisions of this rule shall not apply to permitted emergency stand-by engines operated either during an emergency or maintenance operation. Maintenance operation is limited to 100 hours per calendar year.

103.3 Exemption, Research, Testing and Evaluation: The provisions of this rule shall not apply to:

103.3.1 Engines used in research or teaching programs;

103.3.2 Test-stands used for evaluating engine performance.

103.4 Exemption, Low Capacity: The provisions of this rule shall not apply to diesel engines with a permitted capacity factor of 15 percent or less.

103.5 Exemption, Cranes and Welding: The provisions of this rule shall not apply to engines used to power cranes and welding equipment.

200 DEFINITIONS

201 ANNUAL FUEL USAGE: The amount of fuel an internal combustion engine consumes in a calendar year.

202 APCO: District Air Pollution Control Officer.

203 CALENDAR YEAR: Twelve (12) consecutive months beginning January 1 and ending December 31.

204 DIESEL ENGINE: A compression-ignited two or four-stroke engine in which liquid fuel injected into the combustion chamber ignites when the air charge has been compressed to a temperature sufficiently high for auto-ignition.

205 EMERGENCY STAND-BY ENGINE: An internal combustion engine used only as follows:

205.1 When normal power line or natural gas service fails;

205.2 For the emergency pumping of water for either fire protection or flood relief.

An emergency stand-by engine may not be operated to supplement a primary power source when the load capacity or rating of the primary power source has either been reached or exceeded.

206 ENGINE RATING: The output of an engine as determined by the engine manufacturer and listed on the nameplate of the engine, regardless of any de-rating.

207 EXISTING ENGINE: A stationary internal combustion engine whose installation commenced prior to the date of adoption of this rule.

208 LEAN-BURN ENGINE: A spark-ignited engine that is designed to operate with an air-to-fuel ratio that is greater than 1.1 times the stoichiometric air-to-fuel ratio.

209 MAINTENANCE OPERATION: The use of an emergency stand-by engine and fuel system during testing, repair and routine maintenance to verify its readiness for emergency stand-by use.

210 NITROGEN OXIDES (NO_x): The sum of nitric oxide and nitrogen dioxide compounds in the exhaust gas stream of an internal combustion engine.

211 OUTPUT: The shaft work output from an engine, plus the energy reclaimed by any useful heat recovery system.

212 PERMITTED CAPACITY FACTOR: Calculated in percent by (1) taking the annual permitted fuel use and dividing it by the product of the manufacturer's specified maximum hourly fuel consumption times 8760 hours per year, and (2) multiplying that result by 100.

213 RICH-BURN ENGINE: A spark-ignited engine that is designed to operate with an air-to-fuel ratio that is less than or equal to 1.1 times the stoichiometric air-to-fuel ratio.

214 PEAK LOAD: Maximum instantaneous operating load.

215 START OF CONSTRUCTION: The time when the owner has:

215.1 Begun a continuous program of on-site construction of the source, to be completed within a reasonable time.

or

215.2 Entered into binding agreements or contractual arrangements to undertake construction, which cannot be cancelled or modified without substantial loss to the owner or operator.

216 STATIONARY INTERNAL COMBUSTION ENGINE: Any internal combustion engine of the reciprocating type that is operated at a site for more than one year or is attached to a foundation, not including engines used for self-propulsion.

217 STOICHIOMETRIC AIR/FUEL RATIO: The chemically correct air-to-fuel ratio where all fuel and all oxygen in the air-to-fuel mixture will be consumed.

300 STANDARDS

301 LIMITS

301.1 After the applicable compliance date specified in Section 401 of this rule, the owner or operator of an existing stationary internal combustion engine to which this rule is applicable, shall limit the emissions from that engine to no more than the following:

301.1.1 Rich-burn stationary internal combustion engine NOx emissions shall not exceed 90 ppmv and CO emissions shall not exceed 2,000 ppmv.

301.1.2 Lean-burn stationary internal combustion engine NOx emissions shall not exceed 150 ppmv and CO emissions shall not exceed 2,000 ppmv, if the engine rating is greater than 100 horsepower.

301.1.3 Lean-burn stationary internal combustion engine NOx emissions shall not exceed 300 ppmv and CO emissions shall not exceed 2,000 ppmv, if the engine rating is equal to or less than 100 horsepower.

301.1.4 Diesel-fired stationary internal combustion engine NOx emissions shall not exceed 600 ppmv and CO emissions shall not exceed 2,000 ppmv.

Where: ppmv = parts per million by volume at 15% oxygen on a dry basis

NOx = nitrogen oxides
CO = carbon monoxide

301.2 The owner or operator of any new or replacement stationary internal combustion engine shall limit the emissions from that engine to those levels established in Section 301.1.

301.3 In lieu of meeting the emission limits specified in Sections 301.1 of this rule, an owner or operator of an internal combustion engine may elect to replace the unit with an electric motor or permanently remove the engine from service in accordance with the applicable compliance schedule specified in Section 401.4 of this rule.

301.4 All engines subject to this rule shall be equipped with a non-resettable fuel consumption meter or a non-resettable elapsed time meter.

302 ENGINE OPERATOR INSPECTION PLAN: The operator of an engine subject to the provisions of Section 301 of this rule shall submit to the APCO an Engine Operator Inspection Plan. The plan shall be approved in writing by the APCO and updated after any change in operation. For new engines and modifications to existing engines, the plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The operator may request a change to the plan at any time. The plan shall include the following:

302.1 The manufacturer, model number, rated horsepower and combustion method (i.e., rich-burn, lean-burn, or diesel) of the engine.

302.2 A description of the NOx control system installed on the engine, if any, including type (e.g., nonselective catalyst, "clean-burn" combustion, etc.), manufacturer, and a description of any ancillary equipment related to the control of emissions (e.g., automatic air/fuel ratio controller, fuel valves, etc.).

302.3 The company identification and location of the engine by a schematic diagram of the affected facilities.

302.4 A specific emission inspection procedure to assure that the engine is operated in continual compliance with the provisions of this rule. The procedure shall include an

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inspection schedule. Inspections shall be conducted every quarter or after every 2,000 hours of engine operation. In no event shall the frequency of inspections be less than once per year. Testing results from individual engines in terms of rated brake horsepower, operational conditions, fuel used and control method, may satisfy these inspection requirements. Prior to implementation of testing, test plans shall be submitted to and approved in writing by the APCO.

- 302.5 A description of each preventive or corrective maintenance procedure or practice that will be used to maintain the engine and NOx control system in continual compliance with the provisions of this rule.

400 ADMINISTRATIVE REQUIREMENTS

401 COMPLIANCE SCHEDULES

- 401.1 Compliance Schedule-Existing: Owners or operators of existing engines shall comply, with the applicable provisions of Section 301 of this rule in accordance with the following schedule:

No later than **90 days after the date of adoption of this rule**, submit to the APCO:

401.1.1 An Engine Operator Inspection Plan pursuant to Section 302 of this rule and a complete application for an Authority to Construct, if applicable;

or

401.1.2 Support documentation for each exempt engine, pursuant to Section 502.1 of this rule.

No later than **120 days after the date of adoption of this rule**, demonstrate full compliance with all provisions of this rule.

- 401.2 Compliance Schedule – Retrofit: Owners or operators of existing engines that require retrofit or additions to meet requirements of this rule, shall comply with the applicable provisions of Section 301.1 of the rule in accordance with the following schedule:

No later than **90 days after adoption of this rule**, submit to the APCO:

401.2.1 An Engine Operator Inspection Plan pursuant to Section 302 of this rule; or

401.2.2 Support documentation for each exempt engine, pursuant to Section 502.1 of this rule.

401.2.3 A complete application for an Authority to Construct for all modifications.

No later than **July 1, 2004**, start construction of all retrofits and/or additions of new control equipment, as approved by the APCO.

No later than **December 1, 2004**, demonstrate full compliance with the applicable provisions of this rule. Engines equipped with non-selective catalytic control reduction have until the next catalyst recharge or three (3) years, whichever occurs first, to comply with the requirements of Section 301.1.

- 401.3 Compliance Schedule – New Construction: Any owner or operator of a new or replacement unit that is constructed on or after **date of adoption of this rule**, shall complete an application for an Authority to Construct prior to beginning construction of the unit. The owner or operator shall demonstrate that the unit will be operated in

compliance with all applicable provisions of this rule within 60 days after the date of initial startup of the unit.

- 401.4 Compliance Schedule – Permanent Removal/Replacement: An owner or operator who elects to replace a stationary internal combustion engine with an electric motor as specified in Section 301.3 of this rule, or who permanently removes the engine from service shall demonstrate compliance with all the applicable requirements of this rule no later than **December 1, 2004**. The owner or operator shall submit written notification to the District for either conversion to electric power or permanent removal no later than **December 1, 2003**. The owner or operator shall start electric motor conversion of the unit no later than **May 1, 2004**, or permanently remove the engine from service by **December 1, 2004**.

402 REPORTING REQUIREMENTS: Prior to the renewal of any Permit to Operate, each owner or operator subject to the provisions of this rule shall provide the APCO the following data:

- 402.1 Actual annual usage (e.g., fuel consumption and operating hours) for each affected engine;
- 402.2 Engine manufacturer, model number and permit number;
- 402.3 Location of each engine;
- 402.4 A summary of maintenance and testing reports per Section 302.4 of this rule, and an annual emission report.

403 EMISSION SOURCE TESTING: Engines subject to the requirements of Sections 301.1, 301.2 and 301.3 of this rule shall be source tested for NOx and CO emissions as follows:

- 403.1 The owner or operator shall arrange for and assure that an emissions source test is performed on each stationary internal combustion engine at least once every 24 months.
- 403.2 All emission readings shall be taken at an engine's actual peak load and under the engine's typical duty cycle. Determination of emissions shall be made in accordance with the test methods listed in Sections 504.1, 504.2 and 504.3.
- 403.3 Prior to any source test required by this rule, a source test protocol shall be prepared and submitted to the APCO. The source test protocol shall be approved by the APCO prior to any testing. In addition to other information, the source test protocol shall describe which critical parameters will be established and incorporated into the Engine Operator Inspection Plan described in Section 302. Source test protocol shall conform to the requirements in Section 504.5. Emissions under normal operating conditions before any controls are considered to be Baseline emissions. Source test reports shall be submitted to the APCO or designee.

404 VIOLATIONS

- 404.1 Failure to comply with any provision of this rule shall constitute a violation of this rule.
- 404.2 It is the responsibility of the engine owner or operator to demonstrate to the satisfaction of the APCO, that an engine subject to this rule is being operated in continuous compliance with all applicable provisions of this rule.
- 404.3 An engine shall be in violation if is operated out of compliance with the operating parameters of an approved Engine Operator Inspection Plan. If, however, data from a source test of the engine operating under identical conditions indicates that the engine is in compliance with the requirements of this rule, then a violation will not have occurred. The source test shall be conducted at the engine operator's

expense. The Engine Operator Inspection Plan shall be then amended to reflect the information from this source test.

500 MONITORING AND RECORDKEEPING

501 RECORDKEEPING-GENERAL: The owner or operator of any engine subject to Section 301 of this rule shall maintain an inspection log containing, at a minimum, the following data:

- 501.1 Identification and location of each engine subject to the provisions of this rule.
- 501.2 Date and results of each emission inspection.
- 501.3 A summary of any corrective maintenance measures taken to ensure compliance with the emission limits or reductions, specified in Section 301 of this rule.
- 501.4 The readings of the non-resettable fuel consumption and the non-resettable elapsed operating time indicators.
- 501.5 Any additional information required in the Engine Operator Inspection Plan.

502 RECORDKEEPING – EXEMPTIONS: Any owner or operator claiming an exemption under Section 103 of this rule shall keep support documentation identifying reasons for the exemption. Such documentation shall contain a list that provides the following for each engine:

- 502.1 Permit to Operate number, if applicable
- 502.2 Engine manufacturer
- 502.3 Engine model designation
- 502.4 Rated brake horsepower
- 502.5 Type of fuel and type of ignition
- 502.6 A log of operating hours for each engine.

503 RECORDKEEPING - RETENTION: The owner or operator shall maintain the records required in Sections 501 and 502 for a period of two (2) years after the date of each entry. The log shall be made available for inspection by the APCO, upon request.

504 TEST METHODS

- 504.1 Nitrogen Oxides: NOx emissions for compliance source tests shall be determined in accordance with EPA Method 7E or CARB Method 100.
- 504.2 Carbon Monoxide: CO emissions for compliance source tests shall be determined in accordance with EPA Method 10 or CARB Method 100.
- 504.3 Oxygen: Oxygen content for compliance source tests shall be determined in accordance with EPA Method 3A or CARB Method 100.
- 504.4 Testing Protocol: NOx emission limitations specified in Sections 301.1 and 301.2 of this rule shall be expressed as nitrogen dioxide. All ppmv emission limitations are referenced at 15 percent volume stack gas oxygen, measured on a dry basis. Source test data point intervals shall be no greater than five (5) minutes and data points shall be averaged over 15 consecutive minutes.

RULE 243 POLYESTER RESIN OPERATIONS

Adopted 4-10-03

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100 GENERAL

101 PURPOSE: To reduce the emissions of Volatile Organic Compounds (VOC) from polyester resin operations at each stage of the polyester resin process.

102 APPLICABILITY

102.1 Geographic: The provisions of this rule apply to all commercial and industrial stationary facilities performing polyester resin operations, including pleasure craft refinishing, anywhere in Placer County.

102.2 Application: This rule applies to any person who:

102.2.1 Manufactures, sells, offers for sale or supplies polyester resins for use in the District; or

102.2.2 Uses polyester resins; or

102.2.3 Uses a surface preparation solvent, a cleanup solvent or a stripper; or

102.2.4 Solicits, requires the use of, or specifies the application of any polyester resins, surface preparation solvent, cleanup solvent, or stripper that does not comply with this rule.

102.3 Severability: If a court of competent jurisdiction issues an order that any provision of this rule is invalid, it is the intent of the Board of Directors of the District that the other provisions of this rule remain in full force and effect, to the extent allowed by law.

103 EXEMPTIONS

103.1 Partial Exemption, Touch-Up and Repair: The provisions of Section 300 of this rule, Standards, shall not apply to touch-up and repair operations.

103.2 Partial Exemption, Low Usage of Resin Materials: The provisions of this rule, except for Sections 501 and 502, shall not apply to any person operating a polyester operation where the volume of polyester resin materials used in any month is less than 20 gallons.

103.3 Partial Exemption, Low Usage of Cleaning Materials: The provisions of Section 304 of this rule shall not apply to the cleaning of molds, spray equipment or other dispensing equipment tools used in gel coat or specialty resin operations that come in direct contact with polyester resin products, provided that the total volume of the cleaning materials used in any month does not exceed 16 gallons.

103.4 Pleasure Craft Exemption: The provisions of this rule shall not apply to pleasure craft repair and maintenance operations that do not involve polyester resin materials.

103.5 Exemption From Rule 219: The provisions of Rule 219, Organic Solvents, shall not apply to polyester resin operations as defined in Rule 243.

200 DEFINITIONS

201 APCO: Air Pollution Control Officer.

202 CAPTURE EFFICIENCY: Expressed in percent, capture efficiency is the ratio of the weight of the VOC in the effluent stream entering a control device to the weight of the VOC emitted from polyester resin operations, both measured simultaneously in accordance with Subsection 503.3, and calculated by the following equation:

$$\text{Capture Efficiency} = \frac{W_c}{W_e} \times 100$$

Where: W_c = Weight of VOC entering the control device

W_e = Weight of VOC discharged from the coating operations

- 203 CATALYST:** A substance added to resin to initiate or promote polymerization.
- 204 CLEANING MATERIAL:** Any material containing a volatile organic compound (VOC) and used to clean hands, work areas, tools, molds, application equipment, and any other equipment related to a polyester resin operation.
- 205 CLOSED CONTAINER:** A container, which has a cover where the cover meets with the main body of the container without any visible gaps between the cover and the main body of the container.
- 206 CLOSED MOLD SYSTEM:** A method of forming objects from polyester resin material by placing the polyester resin material in a confining mold cavity and applying pressure and/or heat.
- 207 CONTROL DEVICE EFFICIENCY:** Expressed in percent, control device efficiency is the ratio of the weight of the VOC removed by the control device from the effluent stream entering the control device to the weight of VOC in the effluent stream entering the control device, both measured simultaneously in accordance with Subsection 503.4, and calculated by the following equation:

$$\text{Control Device Efficiency} = \frac{(W_c - W_a)}{W_c} \times 100$$

Where: W_c = Weight of VOC entering the control device

W_a = Weight of VOC discharged from the control device

- 208 CROSS-LINKING:** The process of chemically bonding two or more polymer chains together.
- 209 CURE:** To polymerize, e.g., to transform from a liquid to a solid or semi-solid state to achieve desired product physical characteristics, including hardness.
- 210 ELECTROSTATIC SPRAY:** Equipment used to apply materials by charging atomized particles, which are deposited by electrostatic attraction.
- 211 EMISSION CONTROL SYSTEM:** A system for reducing emissions of VOC from polyester resin operations. It consists of (1) equipment, which captures the emissions from the polyester resin process and transports them to the control device, and (2) a VOC control device, which destroys the VOC or otherwise limits the emission of VOC to the atmosphere. The capture efficiency and the control device efficiency are calculated in accordance with Subsections 503.3 and 503.4, respectively.

The Emission Control System Efficiency is calculated by the following equation:

$$\text{Efficiency, \%} = \frac{\text{Capture Efficiency, \%} \times \text{Control Device Efficiency, \%}}{100}$$

212 ENCLOSED GUN CLEANER:

212.1 A device that is used for the cleaning of spray guns, pots, cups and hoses, that has an enclosed solvent container, is not open to the ambient air when in use and has a mechanism to force the cleanup material through the gun while the cleaner is in operation:

or

212.2 A device that is used for the cleaning of spray guns, pots, cups and hoses, that has a remote reservoir, uses non-atomized solvent flow to flush the spray equipment and collects and returns the discharged solvent to the remote reservoir.

213 EXEMPT COMPOUND: Any organic compound, which is exempt from the category of Volatile Organic Compounds (VOC), and is listed in District Rule 102, Definitions.

214 FIBERGLASS: A glass fiber, similar in appearance to wool or cotton fiber.

215 GEL COAT: A polyester resin topcoat that provides a cosmetic enhancement and improves resistance to degradation from exposure to the environment. A gel coat may be either pigmented or clear.

216 GRAMS OF VOC PER LITER OF MATERIAL: The weight (in grams) of VOC per liter of material shall be calculated using the following:

$$\text{Weight of VOC per volume of material} = \frac{(W_V - W_W - W_{EC})}{W_M}$$

Where: W_V = Weight of all volatile compounds, in grams

W_W = Weight of water, in grams

W_{EC} = Weight of compounds listed as exempt from the definition of VOC, per Section 237, in grams

W_M = Volume of material, in liters

217 HIGH VOLUME-LOW PRESSURE (HVLP) EQUIPMENT: Spray equipment used to apply coatings by means of a gun which operates between 0.1 and 10.0 psig air pressure, measured dynamically at the center of the air cap and at the air horns.

218 INHIBITOR: A substance used to slow down or prevent a chemical reaction.

219 LAY-UP: A hand application technique of composite materials using a bucket and a paint brush, a paint roller or other hand-held method of application.

220 LOW VOC EMISSIONS RESIN SYSTEMS: Polyester resin materials, which contain vapor suppressants to reduce monomer evaporation loss.

221 LOW VOLUME-LOW PRESSURE (LVLP) EQUIPMENT: Spray equipment used to apply coatings by means of a gun which operates between 0.1 and 10.0 psig air pressure, and air volume less than 15.5 cfm per spray gun and which operates at a maximum fluid delivery pressure of 50 psig.

222 MATERIAL: Any material containing VOC, including but not limited to, resin, pigmented gel coat, catalyst, stripper or cleaning solvent.

223 MONOMER: A relatively low-molecular-weight organic compound that combines with itself, or other similar compounds, to become a cured thermosetting resin.

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224 MONOMER CONTENT: The amount of monomer in a batch of polyester resin material, expressed as a percentage of the total weight of the batch. It shall be calculated by using the following three equations:

$$224.1 \text{ Batch weight } W_B = W_R + W_F + W_P + W_O$$

Where: W_R = Resin weight
 W_F = Filler weight
 W_P = Pigment weight
 W_O = Other additives weight

$$224.2 \text{ Monomer weight, } W_M = W_R \times \frac{W_{SP}}{100}$$

Where: W_R = Resin weight in batch
 W_{SP} = % Monomer in resin, per mfg'r's. specification.

$$224.3 \text{ Monomer content, \% } = \frac{W_M}{W_B} \times 100$$

225 NON-ATOMIZING APPLICATOR: Equipment used to apply materials by use of fluid pressure without forming an atomized spray.

226 PLEASURE CRAFT: Boats or other water vessels, which are manufactured or operated primarily for recreational purposes, or leased, rented or chartered to a person or business for recreational purposes.

227 PLEASURE CRAFT COATING: Any unsaturated polyester resin material applied by brush, spray, roller or other means to a pleasure craft.

228 POLYESTER RESIN MATERIALS: Include but are not limited to, unsaturated polyester resins such as isophthalic, orthophthalic, halogenated, bisphenol-A, vinyl ester, or furan resins; cross-linking agents, catalysts, gel coats, inhibitors, accelerators, promoters, and any other VOC-containing materials in polyester operations.

229 POLYESTER RESIN OPERATIONS: The production or rework of products by mixing, pouring, hand lay-up, impregnating, injecting, forming, winding, spraying, and/or curing unsaturated polyester resin materials with fiberglass, fillers, or any other reinforcement materials, and associated cleanup.

230 POLYMER: A chemical compound comprised of a large number of chemical units, which is formed by the chemical linking of monomers.

231 POLYMERIZATION: A chemical process where liquid materials are transformed into a solid or semi-solid state to achieve desired product physical properties, including hardness.

232 REPAIR: The part of the fabrication process that requires the addition of polyester resin material to one or more portions of a previously fabricated product in order to mend structural damage.

233 RESIN: Any of a class of organic polymers of natural or synthetic origin used in reinforced products to surround and hold fibers or filler particles, and is solid or semi-solid in the cured state.

- 234 SPECIALTY RESIN:** Any halogenated, furan, bisphenol-A, vinyl-ester, or isophthalic resin used to make products for exposure to one or more of the following extreme environmental conditions: acute or chronic exposure to corrosive agents, caustic agents, acidic agents or flame.
- 235 TOUCH-UP:** The part of the fabrication process that is necessary to cover minor imperfections.
- 236 VAPOR SUPPRESSANT:** A substance added to resin to minimize the outward diffusion of monomer vapor into the atmosphere.
- 237 VOLATILE ORGANIC COMPOUND (VOC):** Any chemical compound, which meets the definition of VOC described in District Rule 102, Definitions.
- 238 WASTE MATERIAL:** Material including, but not limited to, scraps resulting from cutting or grinding operations, any paper or cloth used for cleaning operations, waste resins and any other spent cleaning materials.

300 STANDARDS

- 301 SPRAY APPLICATION REQUIREMENTS:** Spray application of polyester resin materials shall be performed using one or more of the following application methods:
- 301.1 Non-Atomizing Applicator;
 - 301.2 High volume-low pressure (HVLP) spray gun;
 - 301.3 Low volume-low pressure (LVLP) spray gun;
 - 301.5 Electrostatic spray;
 - 301.6 Any other equivalent method, which has been approved in writing by the APCO and the U. S. Environmental Protection Agency.
- 302 PROCESS AND CONTROL REQUIREMENTS:** Each polyester resin operation shall comply with one of the following process or control requirements:
- 302.1 Low VOC Polyester Resin Materials: Use only materials with the following not-to-exceed monomer content: (Monomer content is as applied, based upon the manufacturer's specifications and is calculated per Section 224).
 - 302.1.1 Resins (except for specialty resins and gel coats): Not to exceed monomer content of 35% by weight, as applied.
 - 302.1.2 Pigmented Gel Coats: Not to exceed monomer content of 45% by weight, as applied.
 - 302.1.3 Specialty Resins and Clear Gel Coats: Not to exceed monomer content of 50% by weight, as applied.
 - 302.2 Vapor Suppressant: Use polyester resin material containing a vapor suppressant which limits weight loss from VOC emissions to no more than 60 grams per square meter.
 - 302.3 Closed Mold: Use a closed mold system.
- 303 EMISSION CONTROL SYSTEM:** As an alternative to Section 302, the owner/operator of a polyester resin operations facility may install and operate an emission control system. The emission control system shall be an acceptable alternative if it meets all of the following requirements:

- 303.1 Permit: Owner or Operator shall apply for and receive a Permit-to-Operate from the APCO, pursuant to Rule 501, General Permitting Requirements.
- 303.2 Efficiency: Owner or operator shall provide an overall system efficiency of not less than 85% by weight, as determined per Subsections 503.3 and 503.4, and calculated per Section 211.
- 303.3 Operation and Maintenance Plan: Plan shall comply with the provisions of Section 404.

304 CLEANING MATERIAL REQUIREMENT: Unless used in an enclosed gun cleaner, the maximum allowable usage of cleaning materials that either exceed 1.7 pounds VOC per gallon, or have an initial boiling point less than 190°C, is four gallons per day. If the usage of these materials exceeds four gallons per day, a cleaning material reclamation system shall be used. Such a system shall operate at a minimum of 80% recovery efficiency. Solvent residues from on-site reclamation systems shall not contain more than 20 % VOC by weight, as determined per Subsection 503.7.

305 STORAGE AND DISPOSAL REQUIREMENTS

- 305.1 Closed Containers: Closed containers shall be used for the storage of all polyester resin materials, cleaning materials, freshly-cured resin scraps and any other unused VOC-containing materials except when being accessed for use.
- 305.2 Self-Closing Containers: Self-closing containers shall be used in such a manner to effectively control VOC emissions to the atmosphere for the disposal of all polyester resin materials, cleaning materials, waste materials and any unused VOC-containing materials.

306 COMPLIANCE DATES

- 306.1 Any person subject to the requirements of this rule shall be in compliance by October 13, 2003.
- 306.2 Facilities operating prior to the date of adoption of this rule, and electing to install and operate an emission control system pursuant to the requirements of Section 303, shall have the control system installed and operating by October 13, 2004.

400 ADMINISTRATIVE REQUIREMENTS

401 PROHIBITION OF SPECIFICATION: No person shall require for use or specify the application of any gel coat or polyester resin subject to the provisions of this rule that does not meet the limits and requirements of this rule, where such applications result in a violation of this rule. The requirements of this Section shall apply to all written or oral contracts.

402 PROHIBITION OF SALE: No person shall sell or offer for sale, any gel coat or polyester resin material subject to the provisions of this rule, that does not meet the limits and requirements of this rule where such applications result in a violation of this rule.

403 SALE OF SOLVENTS: Any person who sells any solvent subject to this rule shall make available to the purchaser at the time of sale, the following information:

- 403.1 The solvent type by name, code and manufacturer.
- 403.2 The maximum VOC content of the cleanup solvent, as applied, expressed as grams VOC per liter of material as determined pursuant to Section 216.
- 403.3 Recommendations regarding thinning, reducing or mixing with any solvent, as applicable.

404 OPERATION AND MAINTENANCE PLAN: A person using an emission control system pursuant to Section 303, as a means of alternate compliance with this rule, shall submit an Operation and Maintenance Plan for the emission control system to the APCO for approval. A person proposing to install a new emission control system as a means of alternate compliance with this rule shall submit in addition to an Operation and Maintenance Plan, an application for Authority to Construct, pursuant to Rule 501, General Permit Requirements. The Plan shall specify operating and maintenance procedures, which will demonstrate continuous operation of the emission control system during periods of emission-producing operations. The Plan shall also specify which records must be kept to document these operating and maintenance procedures. These records shall comply with the requirements of Sections 501 and 502. The Plan shall be implemented upon approval of the APCO. Non-approval by the APCO, with the deficiency noted, shall be sent to the applicant, in writing within thirty (30) days of receipt of the Plan. The applicant shall have thirty (30) additional days to correct and resubmit the Plan.

500 MONITORING AND RECORDS

501 RECORDKEEPING: Any person subject to this rule shall comply with the following requirements.

501.1 Maintain current records, which provide all of the data necessary to demonstrate compliance with this rule, including the following information:

501.1.1 List of all polyester resins, catalysts, solvents and cleaning materials in use.

501.1.2 Daily usage quantities of the above materials.

501.1.3 Weight percent of monomer (VOC) in each of the polyester resin materials.

501.1.4 VOC content (grams/liter) for solvents and cleaning materials used.

501.1.5 For approved vapor-suppressed resins, the weight loss (grams per square meter) during resin polymerization, the monomer weight percent and the gel time for each resin.

501.1.6 The amount of each of the polyester resin materials and cleaning materials used during each day of operation.

501.1.7 The volume of polyester resin materials and cleaning materials used for touch-up and repair each day of operation.

501.1.8 Records of hours of operation and key operating parameters as per Section 404 for any emission control system.

502 RECORD RETENTION: All records required by this rule shall be retained and made available for inspection by the APCO for the previous 24 month period.

503 TEST METHODS

503.1 VOC Content: Volatile Organic Compound content shall be determined in accordance with EPA Method 24 and calculated per Section 216 of this rule, as applicable.

503.2 Resin VOC (Monomer) Weight Loss: The "Static Method for Determination of Volatile Emissions from Polyester and Vinyl Ester Resins" (Air Resources Board RACT/BARCT Guidance, 1991, which is based upon South Coast AQMD Rule 1162 as amended and published 7/17/90) shall be used for determining VOC emissions for resins as received from the manufacturer. Other applicable test methods may be used if they are approved by the APCO, California Air Resources Board and the U.S. Environmental Protection Agency.

503.3 Emission Capture System Efficiency

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503.3.1 EPA Methods 204, 204A, 204B, 204C, 204D, 204E, and/or 204F, as appropriate.

503.3.2 40 CFR 52.741, "VOC Measurement Techniques for Capture Efficiency".

503.4 Emission Control System Efficiency

503.4.1 EPA Method 25A, "Determination of Total Gaseous Organic Concentration Using a Flame Ionization Analyzer".

503.4.2 EPA Method 18, "Measurement of Gaseous Organic Compound Emissions by Gas Chromatography".

503.4.3 EPA Method 2 or 2C, as appropriate.

503.5 VOC Content, Other

503.5.1 ASTM D 3960-81 - "VOC in Paints and Coatings".

503.5.2 ASTM D 1078-86 - "Liquid VOC Boiling Range".

503.6 Exempt Solvents

503.6.1 ASTM D 4457-85 (GC) or ARB 432

503.7 VOC Content of Waste Materials

503.7.1 EPA Method 8240, "GC/MS Method for Volatile Organics" for liquid wastes.

503.7.2 Air Resources Board Method 401, "Gravimetric Purge and Trap"

RULE 244 SEMICONDUCTOR MANUFACTURING OPERATIONS

Adopted 02-09-95

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100 GENERAL

- 101 DESCRIPTION:** The purpose of this Rule is to limit the emissions of precursor organic compounds from semiconductor manufacturing operations. For the purpose of this Rule, semiconductor manufacturing operations are limited to the manufacture of semiconductor and other related integrated circuits.
- 102 EXEMPTION, SMALL SEMICONDUCTOR OPERATION:** The provisions of Sections 302, and 501 shall not apply to any facility whose total combined negative photoresist maskant and negative photo resist developer consumption is less than 24 gallons per month on a facility wide basis and provided the requirements of Section 402 and Section 502 are met.
- 103 EXEMPTION, SOLVENT CLEANERS:** The provisions of Sections 301 and 302 shall not apply to any vapor degreaser or cold cleaner utilizing solvent flow or with a capacity greater than 10 gallons. Such vapor degreasers or cold cleaners are subject to REGULATION 2, RULE 216, ORGANIC SOLVENT CLEANING AND DEGREASING OPERATIONS.
- 104 EXEMPTION, COMPOUNDS WITH LOW VOLATILITY:** All compounds with an initial boiling point greater than 150 C (302 F) and where the initial boiling point exceeds the actual operating temperature by at least 100 C (180 F) are exempt from the requirements of Section 302.3.

200 DEFINITIONS

- 201 FREEBOARD HEIGHT:** The distance from the top of the solvent or solvent drain to the top of the sink.
- 202 FREEBOARD RATIO:** The freeboard height divided by the smaller of the length or width of the sink or reservoir.
- 203 MASKING:** Application of a maskant material to a wafer to increase or decrease the masked area's resistance to chemical milling.
- 204 ORGANIC COMPOUND:** Any compound of carbon, excluding methane, carbon monoxide, carbon dioxide carbonic acid, metallic carbides or carbonates and ammonium carbonate.
- 205 EXEMPT ORGANIC COMPOUNDS:** For the purposes of this rule, exempt compounds are the following:
- 205.1 Methane
 - 205.2 Carbon dioxide
 - 205.3 Carbon monoxide
 - 205.4 Carbonic acid
 - 205.5 Metallic carbides or carbonates
 - 205.6 Ammonium carbonate
 - 205.7 1,1,1-trichloroethane
 - 205.8 Methylene chloride
 - 205.9 2,2-dichloro-1,1,1-trifluoroethane (HCFC-123)
 - 205.10 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124)
 - 205.11 Trichlorofluoromethane (CFC-11)
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- 205.15 Chloropentafluoroethane (CFC-115)
- 205.16 Pentafluoroethane (HFC-125)
- 205.17 1,1,2,2-tetrafluoroethane (HFC-134)
- 205.18 Tetrafluoroethane (HFC-134a)
- 205.19 1,1-dichloro-1-fluoroethane (HCFC-141b)
- 205.20 1-chloro-1,1-difluoroethane (HCFC-142b)
- 205.21 1,1,1-trifluoroethane (HFC-143a)
- 205.22 Chlorodifluoromethane (HCFC-22)
- 205.23 Trifluoromethane (HFC-23)
- 205.24 Difluoroethane (HFC-152a)
- 205.25 The following four classes of perfluorocarbon compounds:
 - a. Cyclic, branched, or linear, completely fluorinated alkanes.
 - b. Cyclic, branched, or linear, completely fluorinated ethers with no unsaturations.
 - c. Cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations.
 - d. Sulfur-containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.

Perfluorocarbon compounds will be assumed to be absent from a product or process unless a manufacturer or facility operator identifies the specific individual compounds (from the broad classes of perfluorocarbon compounds) and the amounts present in the product or process and provides a validated test method which can be used to quantify the specific compounds.

- 206 PHOTORESIST LINE:** Equipment used to apply and develop photoresist masking solution on a wafer. Process includes preparation (except primary cleaning), soft bake, develop and hard bake.
- 207 PHOTORESIST, NEGATIVE:** Maskant hardens when exposed to light. Unhardened maskant is stripped, exposing wafer surface to etching. Typically uses xylene formulated resin and developer solutions.
- 208 PHOTORESIST, POSITIVE:** Maskant softens when exposed to light. Softened maskant is stripped, exposing wafer surface for etching. Typically uses cellosolves for primer and resin carrier with caustic type developer.
- 209 SEMICONDUCTOR MANUFACTURE:** Any operation performed in order to manufacture semiconductor or related solid state devices, such as semiconductor diodes and stacks, and including rectifiers, integrated microcircuits, transistors, solar cells, and light sensing and emitting devices. Semiconductor manufacture includes all processing from crystal growth through circuit separation and encapsulation. Examples of semiconductor operations are: crystal growth, diffusion operations, photoresist operations, wafer processing, etching, etc.
- 210 SOLVENT CLEANING STATION:** Any operation whose primary purpose is to remove surface contaminants or to remove photoresist using a liquid or vapor containing organic compounds.
- 211 LIQUID SOLVENT LEAKS:** A liquid leak of four drops or more per minute from secondary containment.
- 212 CONTAINERS:** For the purposes of Section 301 and Section 302, a container is defined as having a total volume of 1 liter (0.264 gal) or less. Any container with a volume greater than 1 liter is considered a reservoir.

300 STANDARDS

301 NEGATIVE PHOTORESIST OPERATIONS: All exhaust gases containing precursor organic vapors from negative photoresist operations shall be vented to control devices which reduce the total emission of precursor organic compounds to the atmosphere by at least 90 percent by weight.

302 SOLVENT CLEANING STATION LIMITS: A person shall not operate a solvent cleaning station at a semiconductor manufacturing facility unless exhaust organic vapors are vented to control devices that reduce the total emissions of precursor organic compounds to the atmosphere by at least 90% by weight or the following requirements are met:

302.1 All unheated containers, reservoirs and sinks containing precursor organic compounds shall be provided with a cover. These covers must remain closed unless production, sampling, maintenance, loading or unloading procedures require operator access.

302.2 All unheated reservoirs and sinks containing acetone, isopropyl alcohol, methyl alcohol, methyl ethyl ketone, or trichloroethylene shall have a freeboard ratio greater than or equal to 0.75.

302.3 All heated reservoirs, sinks, or containers containing precursor organic compounds shall be provided with a cover as described in Section 302.1. In addition, heated reservoirs and sinks must also have a freeboard ratio greater than or equal to 0.75.

302.4 The capacity of all vapor degreasers and cold cleaners shall be clearly marked by suitable physical or mechanical means.

302.5 Precursor organic compounds including waste solvents, shall not be stored or disposed of in a manner that will allow evaporation into the atmosphere. Storage of organic compounds in tanks which comply with Rule 212, STORAGE OF PETROLEUM PRODUCTS, constitutes compliance with Section 302.5.

302.6 All equipment at a solvent cleaning station shall be operated and maintained in proper working order.

302.7 Liquid solvent leaks shall be repaired immediately or the equipment shall be shut down until repaired.

400 ADMINISTRATIVE REQUIREMENTS

401 RESERVOIRS AND SINKS COMPLIANCE SCHEDULE: Any existing facility subject to Section 302 of this Rule shall comply with the following increments of progress:

401.1 Submit plan for compliance by March 1, 1996.

401.2 Submit to the APCO a complete application for an Authority to Construct for necessary equipment modifications on or before March 1, 1997.

401.3 Complete on-site construction of equipment modifications on or before March 1, 1998.

401.4 Demonstrate final compliance on or before March 1, 1999.

402 SMALL SEMICONDUCTOR OPERATION PETITION: Any person seeking to satisfy the conditions of Section 102 shall comply with the following requirements:

402.1 A written petition for exemption shall be submitted to the APCO, showing the total combined net usage of negative photoresist maskant and negative photoresist developer, is less than 24 gallons per month for the facility. The written petition must be submitted to the APCO by March 1, 1996.

402.2 If the APCO grants written approval, such petition will be repeated every July 1, on an annual basis.

500 MONITORING AND RECORDS

501 ANNUAL REPORTING: Any person subject to Sections 301 or 302 of this Rule shall report the following on an annual basis, prior to renewal of Permits to Operate:

501.1 Quantity of each of the following liquid organic compounds purchased during the previous 12 months for use in semiconductor manufacturing.

Xylene
n-Butyl Acetate
Acetone
Isopropyl Alcohol
Methyl Ethyl Ketone
Trichloroethylene
All other precursor organic compounds (total)
Methylene Chloride
1,1,1 Trichloroethane
All other non-precursor organic compounds (total)

501.2 Separate totals of precursor and non-precursor organic compounds disposed of or reclaimed in liquid form from semiconductor manufacturing operations during the previous 12 months.

502 RECORDS: Any person seeking to satisfy the conditions of Section 102 shall comply with the following requirements:

502.1 A weekly record shall be kept showing the facility wide combined net usage of negative photoresist maskant and negative photoresist developer.

502.2 Such records shall be maintained and be available for inspection by the APCO for the previous 24 month period.

503 NEGATIVE PHOTORESIST SOURCE TESTS: Any person subject to Section 301 shall conduct a source test of the abatement device to demonstrate compliance. Results of the tests shall be submitted within 90 days of (Date of adoption by the Board of Directors), or 90 days after start up of affected equipment, whichever is later. The APCO shall be contacted in writing no less than 15 days prior to testing. Equipment that has previously undergone a District

approved source test and successfully demonstrated compliance under Rule 244 requirements need not be retested.

504 TEST METHODS

504.1 Determination Of Abatement Efficiency: Abatement Efficiency of precursor organic compounds as specified in Section 302 shall be measured as prescribed by EPA Method 25 or 25A. A source shall be considered in violation if the VOC emissions measured by any of the test methods exceed the standards of this rule.

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RULE 246 NATURAL GAS-FIRED WATER HEATERS

Adopted 6-19-97

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100 GENERAL

101 PURPOSE: To limit the emission of nitrogen oxides (NO_x) from natural gas-fired water heaters.

102 APPLICABILITY:

102.1 Geographic: The provisions of this rule apply to all of Placer County.

102.2 General: This rule shall apply to any person who manufactures, distributes, offers for sale, sells, or installs any natural gas-fired water heater with a rated heat input capacity less than 75,000 British Thermal Units per hour (BTU/hr), for use in this District.

103 EXEMPTIONS:

103.1 Exemption, Large Natural Gas-Fired Water Heaters: Water heaters with a rated heat input of 75,000 BTU/hr or greater are exempt from all provisions of this rule.

103.2 Exemption, Recreational Vehicles: Natural gas-fired water heaters used in recreational vehicles are exempt from all provisions of this rule.

103.3 Exemption, Swimming Pools and Hot Tubs: Natural gas-fired water heaters used exclusively to heat swimming pools and hot tubs are exempt from all provisions of this rule.

103.4 Exemption, Other Fuels: Water heaters using any fuel other than natural gas are exempt from all provisions of this rule.

200 DEFINITIONS

201 BRITISH THERMAL UNIT: The amount of heat energy required to raise the temperature of one pound of water from 59⁰ F to 60⁰ F at one atmosphere pressure

202 HEAT INPUT: The amount of heat energy released by natural gas burned in a natural gas-fired water heater. It is calculated during certification testing in accordance with the test method referenced in Section 502.

203 HEAT OUTPUT: The amount of heat energy, H_o, in British Thermal Units (BTU), absorbed by the water being heated during the process of natural gas-fired water heater testing in accordance with the protocol referenced in Section 502. It is calculated using the following equation:

$$H_o = MC_{pi} (T_{del} - T_{in}) + V_{st} D_n C_{p2} (T_{max} - T_o)$$

Where:

H _o	=	Heat output, in BTU
M	=	Mass of the water withdrawn, in pounds
C _{pi}	=	Specific heat of water at the average temperature [(T _{del} + T _{in}) / 2], BTU per pound per °F
T _{del}	=	Average delivery temperature, °F.
T _{in}	=	Average inlet temperature, °F.
V _{st}	=	Storage tank capacity, in gallons, as determined in Section 212
D _n	=	Density of water at the average temperature [(T _{max} + T _o)/2], pounds per gallon

- C_{p2} = Specific heat of water at the average temperature, $[(T_{\max} + T_o)/ 2]$, BTU per pound per $^{\circ}\text{F}$.
- T_{\max} = Maximum mean tank temperature recorded after cutout following the test draw, $^{\circ}\text{F}$.
- T_o = The maximum mean tank temperature recorded prior to the test draw, $^{\circ}\text{F}$.

- 204 JOULE:** A unit of heat energy output equal to 9.4799×10^{-4} BTU.
- 205 MOBILE HOME:** A residential dwelling, designed and manufactured to be movable from site to site as desired by the owner/occupant, and that is not a Recreational Vehicle as defined in Section 211.
- 206 MOBILE HOME WATER HEATER:** A natural gas-fired water heater manufactured exclusively for mobile home use.
- 207 NANOGRAM:** A unit of mass equal to one billionth of a gram, or 10^{-9} gram.
- 208 NATURAL GAS:** A mixture of gaseous hydrocarbons containing at least 80 percent methane by volume as determined according to American Standard Test Method (ASTM) D1945-64.
- 209 NATURAL GAS-FIRED WATER HEATER:** A closed vessel in which water is heated by the combustion of natural gas and is withdrawn for use external to the vessel at pressures not exceeding 160 psig, including the apparatus by which heat is generated and all controls and devices necessary to prevent water temperatures from exceeding 210°F (99°C).
- 210 RATED HEAT INPUT CAPACITY:** The heat input capacity specified on the nameplate of the combustion unit. If the combustion unit has been altered or modified such that its maximum heat input is different from the heat input capacity specified on the nameplate, the actual heat input capacity, as certified by the Manufacturer or Certified technician, shall be considered as the rated heat input capacity.
- 211 RECREATIONAL VEHICLE:** A motor home, travel trailer, truck camper, or camping trailer, with or without motive power, designed for human habitation for recreational, emergency, or other occupancy, and which meets all of the following criteria: (1) contains less than 320 square feet of internal living room area, excluding built-in equipment, including, but not limited to wardrobe, closets, cabinets, kitchen units or fixtures, and bath or toilet rooms; (2) contains 400 square feet or less of gross area measured at maximum horizontal projections; (3) is built on a single chassis and (4) is either self propelled, truck mounted, or permanently towable on the highways without a permit.
- 212 STORAGE TANK CAPACITY:** The capacity of the natural gas-fired water heater in gallons. It is calculated using the following equation:

$$V_{st} = (W_f - W_t) / D_s$$

- Where:
- V_{st} = Storage capacity of the water heater, in gallons
- W_f = Weight of the water heater completely filled with water, in pounds
- W_t = Weight of the empty water heater, in pounds
- D_s = Density of water at the test temperature, in pounds per gallon

- 213 SWIMMING POOLS AND HOT TUBS:** (For the purposes of Section 103.4 of this rule) Residential only, single-dwelling, recreational and personal therapeutic equipment, including in-ground swimming pools, above-ground swimming pools, spas and hot tubs.

300 STANDARDS

- 301 NITROGEN OXIDES EMISSION LIMIT:** A person shall not distribute, offer for sale, sell or install, any natural gas-fired water heater within the District, unless it meets either of the following standards:

- 301.1 A natural gas-fired water heater that emits less than or equal to 40 nanograms of nitrogen oxides [calculated as NO₂] per joule (93 pounds per billion BTU) of heat output; and is certified in accordance with Section 402.
- 301.2 A mobile home natural gas-fired water heater that emits less than or equal to 50 nanograms of nitrogen oxides [calculated as NO₂] per joule (116 pounds per billion BTU) of heat output; and is certified in accordance with Section 402.

400 ADMINISTRATIVE REQUIREMENTS

- 401 COMPLIANCE SCHEDULE:** Effective January 1, 1998, no person shall distribute, offer for sale, sell or install any natural gas-fired water heater which does not comply with the requirements of Section 300.

402 CERTIFICATION REQUIREMENT:

- 402.1 A manufacturer of any natural gas-fired water heater subject to Section 300 shall submit to the Air Pollution Control Officer (APCO) at least 30 days prior to sale, a statement obtained from an independent testing laboratory, certifying that the laboratory tested the unit in accordance with the method in Section 502 of this rule, and that it is in compliance with the provisions of Section 300. The statement shall be signed and dated, and shall attest to the accuracy of all information. The statement shall include the brand name, model number, the heat input capacity rating as it appears on the water heater rating plate, and test results in accordance with Section 502;

OR

- 402.2 A manufacturer shall submit to this District an approved South Coast Air Quality Management District (SCAQMD) certification obtained from an independent testing laboratory. Any model of natural gas-fired water heater certified as complying with the SCAQMD Rule 1121 prior to July 1, 1995, need not be recertified to the test protocol specified in Section 502 until such time as required by the SCAQMD.
- 402.3 A manufacture shall submit a new certification or certification statement meeting the requirements of Section 402.1 or Section 402.2 for any natural gas-fired water heater, the design of which is changed in any manner which may alter the emissions from the water heater. New certifications or certification statements, for either altered or new models, shall be submitted to the APCO at least 30 days before the water heater is offered for sale in the District.

- 403 MANUFACTURERS' LABELING REQUIREMENT:** A manufacturer shall display the model number of the water heater complying with Section 300 on the shipping carton and on the rating plate of each water heater unit. The manufacturer shall also display the certification status on the shipping carton and on the water heater. A label stating "Certified per South Coast Air Quality Management District, Rule 1121" or equivalent language, will meet the shipping carton label requirement of this section.

500 MONITORING AND RECORDS

- 501 RETENTION OF RECORDS:** A manufacturer shall keep test data, calculations, reports and other certification records for as long as the water heater model is offered for sale or sold in the District, or for three calendar years after manufacture, whichever is longer. These records shall be made available to the Air Pollution Control Officer upon request.
- 502 TEST METHOD:** Any natural gas-fired water heater distributed, offered for sale, sold, or installed within the District Shall be tested in accordance with the South Coast Air Quality Management District Protocol: "Nitrogen Oxides Emission Compliance Testing for Natural Gas-Fired Water Heaters and Small Boilers, January 1995".

RULE 250 STATIONARY GAS TURBINES

Adopted 10-17-94

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100 GENERAL

- 101 PURPOSE:** The purpose of this rule is to limit NO_x emissions from stationary gas turbines in conformance with BARCT determinations approved by the California Air Resources Board to meet the requirements of the California Clean Air Act.
- 102 APPLICABILITY:** Except as provided in Sections 110 and 111, this rule shall apply to all stationary gas turbines, 0.3 megawatt (MW) and larger.
- 110 EXEMPTION - LABORATORY, FIREFIGHTING/FLOOD CONTROL, AND PIPELINE UNITS:** The provisions of this rule with the exception of Section 402.3 shall not apply to the operation of stationary gas turbines used under the following conditions:
- 110.1 Laboratory units used in research and testing for the advancement of gas turbine technology.
 - 110.2 Units operated exclusively for firefighting and/or flood control.
 - 110.3 Pipeline gas turbines provided that the owner/operator demonstrates to the satisfaction of the Air Pollution Control Officer that water or steam injection, selective catalytic reduction, or any other emission control technology is not technologically feasible, cost effective or creates adverse environmental impacts such as those associated with the use, transport, or disposal of supplies such as water and ammonia.
 - 110.4 Chemical processing gas turbine units.
- 111 EXEMPTION - EMERGENCY STANDBY AND SMALL UNITS:** The provisions of this rule with the exception of Sections 402.3, 403, and 502.5 shall not apply to the operation of stationary gas turbines used under the following conditions:
- 111.1 Emergency standby units demonstrated to operate less than 200 hours per calendar year.
 - 111.2 Units of less than 4 MW operating less than 877 hours per calendar year.

200 DEFINITIONS

- 201 BARCT:** "Best Available Retrofit Control Technology" as defined in Section 40406 of the California Health and Safety Code as an "emission limitation that is based on the maximum degree of reduction achievable, taking into account environmental, energy, and economic impacts by each class or category of source".
- 202 CHEMICAL PROCESSING GAS TURBINE UNIT:** A stationary gas turbine that vents its exhaust gases into the operating stream of a chemical process.
- 203 COMPLIANCE LIMIT:** Allowable NO_x emissions expressed in parts per million by volume (ppmv).
- 204 CONTROL SYSTEM OPERATING PARAMETERS:** Operating parameters that the Air Pollution Control Officer deems necessary to analyze when determining compliance, such as ammonia and exhaust flow rates and exhaust gas temperature for SCR; of humidity, water injection rate, exhaust gas flow rate, and temperature for water injection.
- 205 EMERGENCY STANDBY UNIT:** A stationary gas turbine that operates only as a mechanical or electrical power source for a facility when the primary power source has been rendered inoperable due to a failure beyond the reasonable control of the operator, except due to power interruption pursuant to a voluntary interruptible power supply agreement. Electricity generated by such a unit cannot be sold.

206 HHV: The higher heating value of a fuel.

207 LHV: The lower heating value of the fuel.

208 MEASURED NO_x EMISSIONS CONCENTRATION: The concentration of NO_x emissions corrected to International Standards Organization (ISO) standard conditions:

$$\text{NO}_x = (\text{NO}_{x\text{obs}})(P_{\text{ref}}/P_{\text{obs}})^{0.5}(288^\circ/\text{T}_{\text{amb}})^{1.53}[e^{19(\text{Hobs}-0.00633)}]$$

Where:

- No_x = Emissions of NO_x at 15 percent oxygen and ISO standard conditions on a dry basis, ppm.
- No_{xobs} = Measured NO_x emissions corrected to 15 percent oxygen on a dry basis, ppm.
- P_{ref} = Standard reference pressure, 14.696 psia.
- P_{obs} = Measured site ambient absolute pressure, psia.
- H_{obs} = Measured humidity of ambient air, pounds water per pound dry air.
- e = Transcendental constant (2.718).
- T_{amb} = Measured temperature of ambient air, degrees K.

or an alternate correlation that corrects to ISO standard conditions and is approved by the Air Pollution Control Officer.

209 NO_x EMISSIONS (No_x): The sum of nitric oxides and nitrogen dioxide in the exhaust gas stream.

210 PIPELINE GAS TURBINES: A stationary gas turbine used to transport gases or liquids in a pipeline.

211 POWER AUGMENTATION: An increase in the gas turbine shaft output and/or the decrease in gas turbine fuel consumption by the addition of energy recovered from exhaust heat.

212 PUBLIC SERVICE UNIT: A gas turbine used to generate electricity for sale or for use in serving the public.

213 RATING: The continuous megawatt (MW) rating or mechanical equivalent by a manufacturer for gas turbine(s) without power augmentation.

214 SELECTIVE CATALYTIC REDUCTION (SCR): A post combustion control technology that utilizes ammonia injected into the exhaust gas stream where it reduces NO_x to molecular nitrogen in the presence of a catalyst.

215 STATIONARY GAS TURBINE: Any gas turbine system that is gas and/or liquid fueled with or without power augmentation. This unit is either attached to a foundation at a facility or is portable equipment operated at a specific facility for more than 90 days in any 12-month period. Two or more gas turbines powering one shaft shall be treated as one unit.

216 THERMAL STABILIZATION PERIOD: The two hour start-up time necessary to bring the heat recovery steam generator to the proper temperature, not to exceed two (2) hours.

300 STANDARDS

301 LIMITATIONS: The owner or operator of any stationary gas turbine unit shall not operate such unit under load conditions, excluding the thermal stabilization period which results in the measured NO_x emissions concentration exceeding the compliance limit listed below, averaged over 15 minutes:

Unit Size Megawatt Rating (MW)	Compliance limit NO _x , ppm @ 15% O ₂	
	Gas ^A	Oil ^B
0.3 to Less Than 2.9 MW and Units Greater Than or Equal to 4 MW That Operate Less Than 877 Hour/Year	42	65
2.9 to Less Than 10 MW	25 x EFF /25	65
10.0 MW and Over with SCR	9 x EFF /25	25 x EFF /25
10.0 MW and Over Without SCR	15 x EFF /25	42 x EFF /25

A. GAS INCLUDES NATURAL, DIGESTER, AND LANDFILL GASES.

B. OIL INCLUDES KEROSENE, JET, AND DISTILLATE. THE SULFUR CONTENT OF THE OIL SHALL BE LESS THAN 0.05%.

Where: **EFF**(efficiency) is the higher of the following:

$$301.1 \quad \text{EFF} = \frac{3412 \times 100\%}{\text{AHR}}$$

[where: AHR = Actual Heat Rate at HHV of Fuel (BTU/KW-HR)], which is the demonstrated percent efficiency of the gas turbine only as calculated without consideration of any downstream energy recovery from the actual heat rate, (BTU/KW-HR) or 1.34 (BTU/HP-HR); corrected to the HHV (higher heating value) of the fuel and ISO conditions, as measured at peak load for that facility, or

$$301.2 \quad \text{EFF} = \frac{\text{MRE} \times \text{LHV}}{\text{HHV}}$$

[where: MRE = Manufacturer's Rated Efficiency with Air Pollution Equipment at LHV.], which is the manufacturer's continuous rated percent efficiency of the gas turbine with air pollution equipment after correction from LHV to HHV of the fuel at peak load for that facility.

400 ADMINISTRATIVE REQUIREMENTS

401 COMPLIANCE SCHEDULE: Owners or operators of all gas turbines existing on the date of adoption and subject to the provisions of this rule shall comply with the applicable provisions of Section 301 in accordance with the following schedule:

401.1 No later than May 31, 1995, demonstrate final compliance.

402 EMISSION CONTROL PLAN: The owner or operator of any existing stationary gas turbine shall submit to the Air Pollution Control Officer for approval an Emissions Control Plan of all actions, including a schedule of increments of progress, which will be taken to meet or exceed requirements of the applicable emissions limitations in Section 301 and compliance schedule in Section 401.

402.1 The Emission Control Plan shall contain, as a minimum, a list that provides the following for each gas turbine subject to the provisions of this rule:

- a. Permit or identification number;
- b. Name of gas turbine manufacturer;
- c. Model designation;
- d. Rated shaft power output (MW);

- e. Type of liquid fuel and/or type of gaseous fuel;
- f. Fuel consumption (cubic feet of gas or gallons of liquid) for the previous one-year period;
- g. Hours of operation in the previous one-year period;
- h. Heat rate (BTU/KW-HR), corrected to the HHV for each type of fuel (liquid/gas), and
- i. HHV for each fuel.

402.2 A listing of all gas turbines required to be controlled, identifying the type of emission control to be applied to each gas turbine along with documentation showing existing emissions of oxides of nitrogen.

402.3 Support documentation for any units exempt under the provisions of Sections 110 and 111.

403 EXEMPT UNITS AND EMERGENCY STANDBY UNITS: Exempt units and emergency standby units shall comply with the following:

403.1 The owner or operator of any unit listed below shall notify the Air Pollution Control Officer in writing within seven days if the hour-per-year limit is exceeded. A public service unit operating during a state of emergency, when such emergency is declared by proclamation of the Governor of the State of California and when the unit is located in the specific geographical location identified in the proclamation, shall be excluded from the hour-per-year limit. If the hour-per-year limit is exceeded, the exemption shall be permanently withdrawn. Within 30 days after the exceedance, the owner or operator shall submit a application for Authority to Construct that details a plan to meet the applicable limits specified in Section 301 of this rule within two years. Included in this application, the owner or operator shall submit an emission control plan that includes a schedule of increments of progress for the installation of the required control equipment. This schedule shall be subject to the review and approval of the Air Pollution Control Officer.

- a. Any unit smaller than 4 MW or emergency standby unit exempt under Sections 110 and 111.
- b. Any unit equal to or greater than 4 MW.

500 MONITORING AND RECORDKEEPING

501 MONITORING: The owner or operator of any stationary gas turbine subject to the provisions of this rule shall perform the following actions:

501.1 Install, operate and maintain in calibration equipment, as approved by the Air Pollution Control Officer, that continuously measures and records the following:

- a. Control system operating parameters;
- b. Elapsed time of operation; and
- c. For units of 10 MW or greater that operated more than 4000 hours per year over the last three years prior to July 13, 1994, the exhaust gas NO_x concentrations corrected to ISO conditions at 15 percent oxygen on a dry basis. The NO_x monitoring system shall meet EPA requirements as specified

in 40 CFR Part 60, App. B, Spec.2 or other systems that are acceptable to the EPA.

502 RECORDKEEPING:

- 502.1 All records shall be available for inspection at anytime for a period of two years.
- 502.2 Submit to the Air Pollution Control Officer information demonstrating that the system has data gathering and retrieval capability.
- 502.3 Submit to the Air Pollution Control Officer, prior to issuance of a Permit to Operate, information correlating the control system operating parameters to the associated NO_x output. This information may be used by the Air Pollution Control Officer to determine compliance when there is no continuous emission monitoring system for NO_x available or when the continuous emission monitoring system is not operating properly.
- 502.4 Provide source test information annually regarding the exhaust gas NO_x concentration at ISO conditions corrected to 15 percent oxygen on a dry basis, and the demonstrated percent efficiency (EFF) of the turbine unit.
- 502.5 Maintain a gas turbine operating log that includes, on a daily basis, the actual Pacific Standard Time start-up and stop time, total hours of operation, type and quantity of fuel used (liquid/gas). This information shall be available for inspection at any time from the date of entry.
- 502.6 Maintain a gas turbine operating log for units exempt under Section 111 that includes, on a daily basis, the actual Pacific Standard Time start-up and stop time, total hours of operation, and cumulative hours of operation to date for the calendar year. This information shall be available for inspection at any time for two years from the date of entry and submitted to the Air Pollution Control Officer at the end of each calendar year in a manner and form approved by the Air Pollution Control Officer.

503 TEST METHODS:

- 503.1 **Oxides of Nitrogen (NO_x):** Oxides of Nitrogen (NO_x) emissions shall be determined in accordance with EPA Method 20.
- 503.2 **Oxygen (O₂):** Oxygen (O₂) concentrations shall be determined in accordance with EPA Method 3A.
- 503.3 **HHV and LHV:** HHV and LHV shall be determined in accordance with ASTM D-240-87, Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter, or D-2382-88, Standard Test Method for Heat of Combustion of Hydrocarbon Fuels by Bomb Calorimeter (High-precision Method), for distillate fuels, and ASTM D-3588-91, Standard Practice for Calculating Heat Value, Compressibility Factor, and Relative Density (Specific Gravity) of Gaseous Fuels, ASTM D-1826-88, Standard Test Method for Calorific (Heating) Value of Gases in Natural Gas Range by Continuous Recording Calorimeter, or ASTM D-1945-81, Standard Method for Analysis of Natural Gas by Gas Chromatography, for gaseous fuels.

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